SHARP OPTONICA SERVICE MANUAL

RT-2050H

APFS

DOLBY SYSTEM ®

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MODEL

RT-2050H

In the interests of user-safety the set should be restored to its original condition and only parts indentical to those specified be used.

SPECIFICATIONS

Type:	AC operated 4-track 2-channel Solid-state Stereo Cassette Tape Record/ Playback Deck with Built Dolby "B" type Noise Reduction & Full-automatic Stop System
Power Source:	AC 110/220/240V, 50/60Hz
Power consumption:	16 watts
Semiconductors:	41-Transistor, 2-FET, 52-Diode, 2-Silicon Controlled Rectifier, 3-Light Emission Diode
Dimensions:	18-3/8"(W) x 13-15/16"(D) x 5-3/4"(H) [467mm(W) x 354mm(D) x 146mm(H)]
Weight:	22.4 lbs. (10.2kg)
Input circuitry:	Microphone jack 300 – 2k ohms x 2 Line input jack 50k ohms x 2 Record/playback socket 40k ohms x 2
Output circuitry:	Headphones output jack 8 ohms x 1 Line output jack 50k ohms x 2 Record/playback socket 470k ohms x 2
Tape:	Philips Standard compact cassette tape
Tape speed:	1-7/8 ips (4.8cm/sec)
Record/playback time:	60 minutes (C-60)
Recording system:	AC bias system (84kHz)
Erasing system:	AC erasing
Fast Forward & Rewind time:	100 seconds (C-60)
Wow & Flutter:	0.18% (DIN 45 500) 0.058% WRMS
Frequency response:	Normal tape; 30 – 13,000Hz (DIN 45 500) 30 – 13,000Hz ± 3dB CrO_2 or Fe-Cr tape; 30 – 14,000Hz (DIN 45 500) 30 – 14,000Hz ± 3dB
S/N ratio:	Better than 52dB, For normal tape (Weighted) at LINE-IN; without Dolby noise reduction.
Dolby N.R. effect:	10dB (at over 5kHz)
Input sensitivity & input impedance:	Microphone 0.2mV @300 ohms Line 70mV @50k ohms Record/playback socket 4mV
Output level & loaded impedance:	Headphones 2mW (0dB) @8 ohms Line 580mV(0dB) @50k ohms Record/playback socket 580mV(0dB) @470k ohms

SHARP CORPORATION OSAKA, JAPAN

DISASSEMBLY (Refer to Figure 1)

CHASSIS REMOVAL

1. Remove 8 screws (A) retaining the wooden plate.
2. Remove 2 screws (B) retaining the cabinet.
3. Gently pull upward the cabinet (C).

FRONT PANEL REMOVAL

1. Remove the cabinet as described in chassis removal.
2. Remove 6 knobs (D) from front of the panel.
3. Remove 6 screws (E) retaining the front panel (F).
4. Gently pull out the front panel (F) while holding both sides.

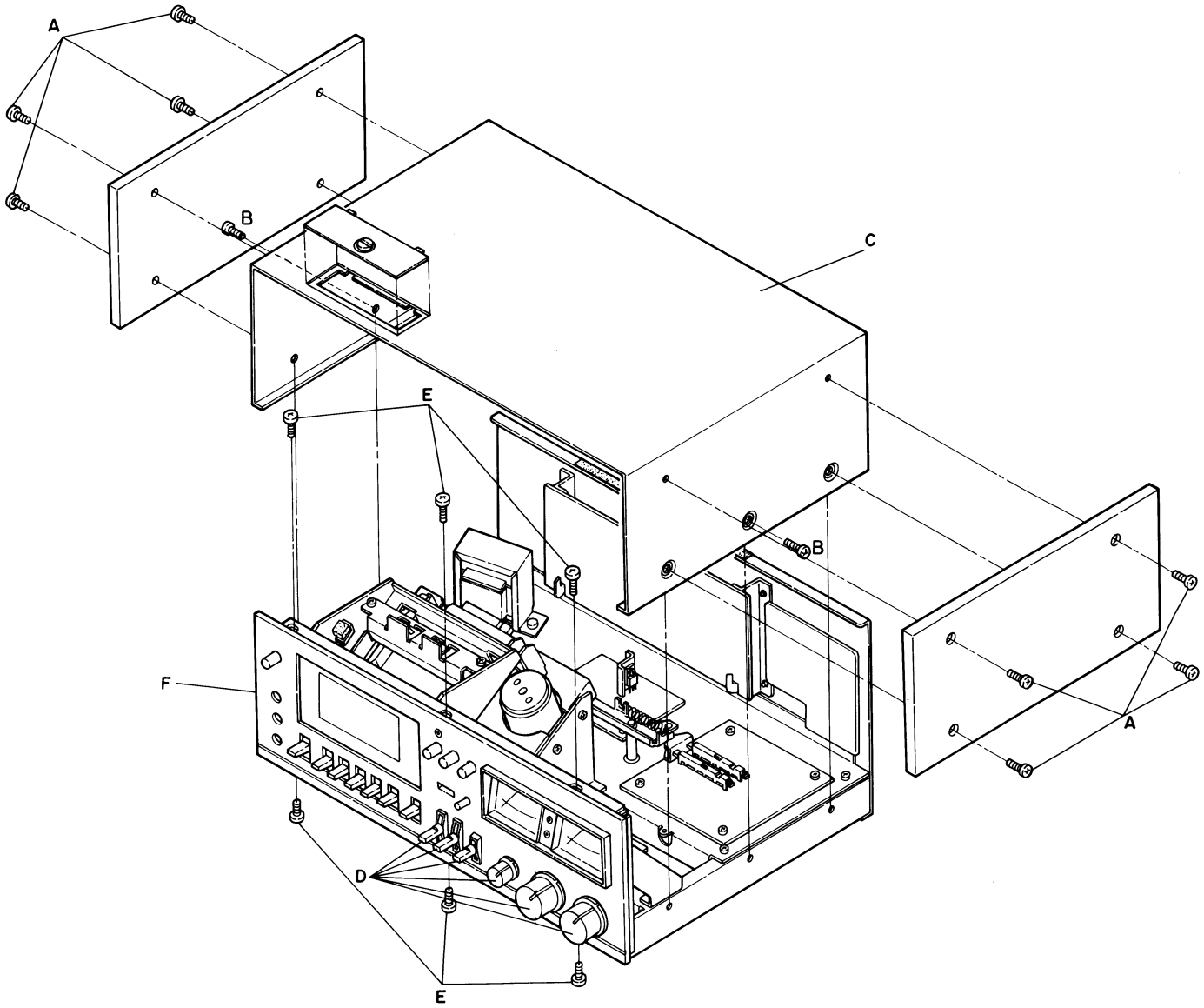


Figure 1 DISASSEMBLY

MECHANICAL ADJUSTMENT

PRESSURE ROLLER PRESSURE ADJUSTMENT (Refer to Figure 2)

1. Setting the unit in PLAY mode with power supply turned on, push the point A with use of tension gauge (0 ~ 500g) to make the pressure roller apart from the capstan shaft. Read the indication of tension gauge when the pressure roller stops its rotation.
2. It is normal when the tension gauge reads 190 ~ 260 gr (6.7 ~ 9.2 oz). If the above value is not satisfied, adjust the pressure spring.

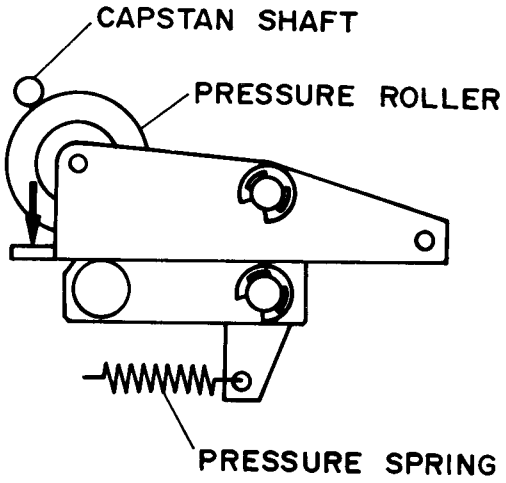


Figure 2

FLYWHEEL THRUST CLEARANCE ADJUSTMENT (Refer to Figure 3)

Slowly tighten the screw so that flywheel thrust clearance becomes 0 (zero) and loosen the screw by 1/2 turn from this point.

Since screw's pitch is 0.5 mm (3/128"), thrust clearance of about 0.2 mm (1/128") is produced.

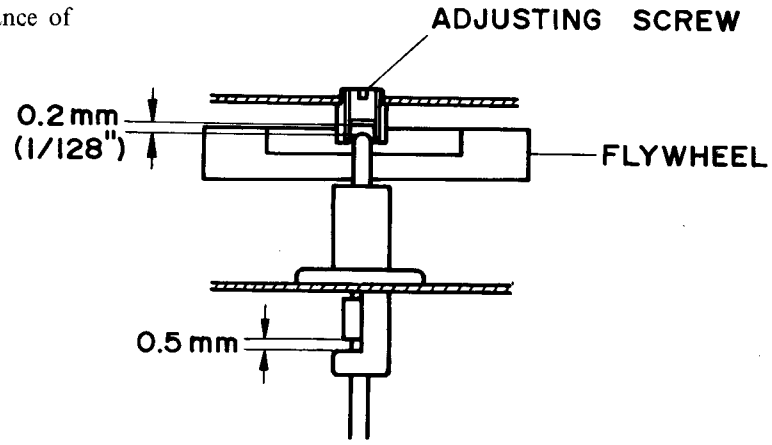


Figure 3

TORQUE CHECK (Refer to Figure 4)

1. Set the torque measuring reel to the turntable (to the take-up side at PLAY or FAST FWD mode and to the supply side at REWIND mode).
2. Then, rotate the reel in the same direction as for turntable and read the torque value when the pointer is stabilized.

Mode	Torque value
PLAY	30 ~ 60 gr. cm
FAST FWD	Over 80 gr. cm
REWIND	Over 80 gr. cm

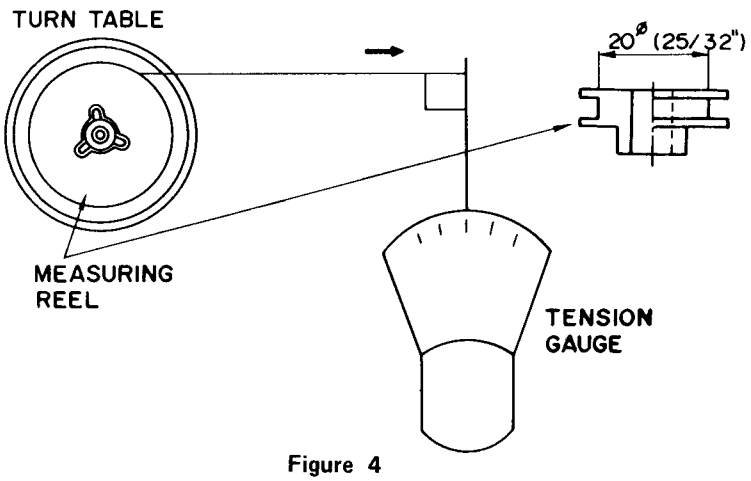


Figure 4

LEAF SWITCH (SW16) SETTING POSITION ADJUSTMENT (Refer to Figure 5)

1. Loosen the screw so that the contact clearance will be 0.5 mm (1/64") in the STOP mode, as shown in Figure 5.

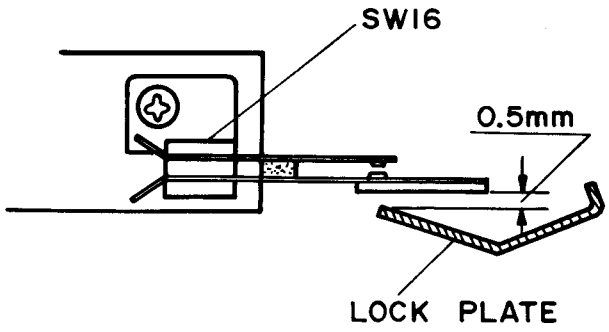


Figure 5

CAPSTAN MOTOR SWITCH (SW14) SETTING POSITION ADJUSTMENT (Refer to Figure 6)

Adjust the capstan motor so that it will be turned on or off as a result of the action of cassette holder.

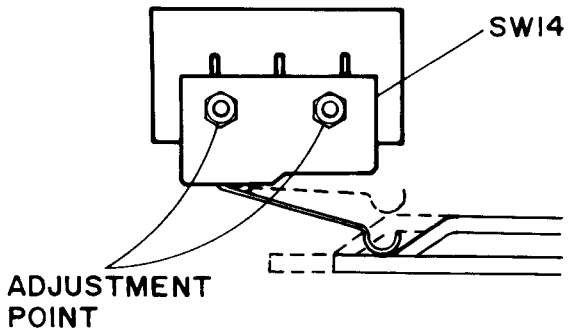


Figure 6

PAUSE SWITCH (SW4)/SPACE PAUSE SOLENOID SWITCH (SW15) TIMING ADJUSTMENT (Refer to Figure 7)

Depress the pause button to be locked. Have the space pause solenoid (SOL302) be attracted by using a hand and gently depress the pause button again so that its lock be released. Under this condition, make sure that the pause switch (SW4) is switched over and thereafter the space solenoid switch (SW15) is turned off (that is, no current is running in the space pause solenoid).

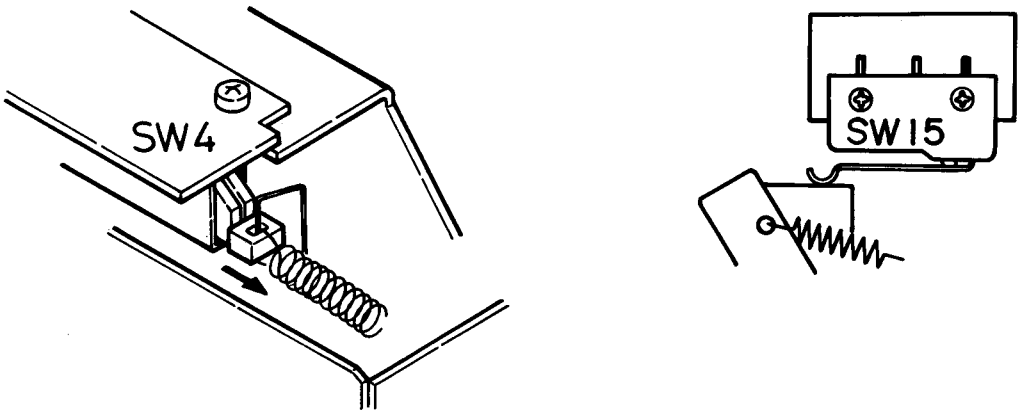


Figure 7

AUTO STOP SOLENOID SETTING POSITION ADJUSTMENT (Refer to Figure 8)

Push the plunger of auto stop solenoid (SOL301) and depress the play key.

At the time, adjust the screws retaining the auto stop solenoid so that the play key lever touches the part A of lock plate and thus the lock plate will slightly be moved by the play key lever.

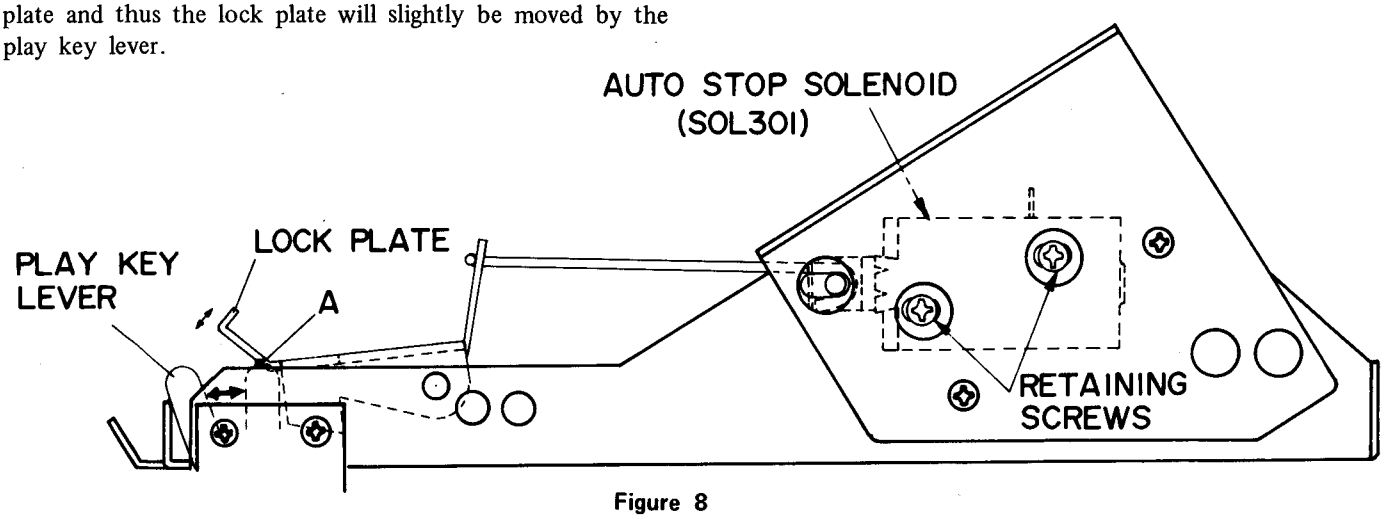


Figure 8

CHECK OF TAPE SPEED (Refer to Figure 9)

1. Playback a test tape of 3,000 Hz, available in the market.
2. Connect 50 K ohm dummy resistor to the LINE OUTPUT Jacks (J107, J108), and connect the input terminals of the speed meter or the wow meter to the resistor.
3. Adjust the measurable level by the playback Level Controls (VR109A, B).
4. It is normal when the regeneration frequency is within ±1% of the meter.
5. When the results of measurement are not satisfactory, take off oil on the belt or pulley. When the motor or the pulley does not smoothly revolve, feel oil or change the part.
   If the operation is still abnormal, adjust the semi-variable resistor (Part of Motor) in the motor by using a screw driver.

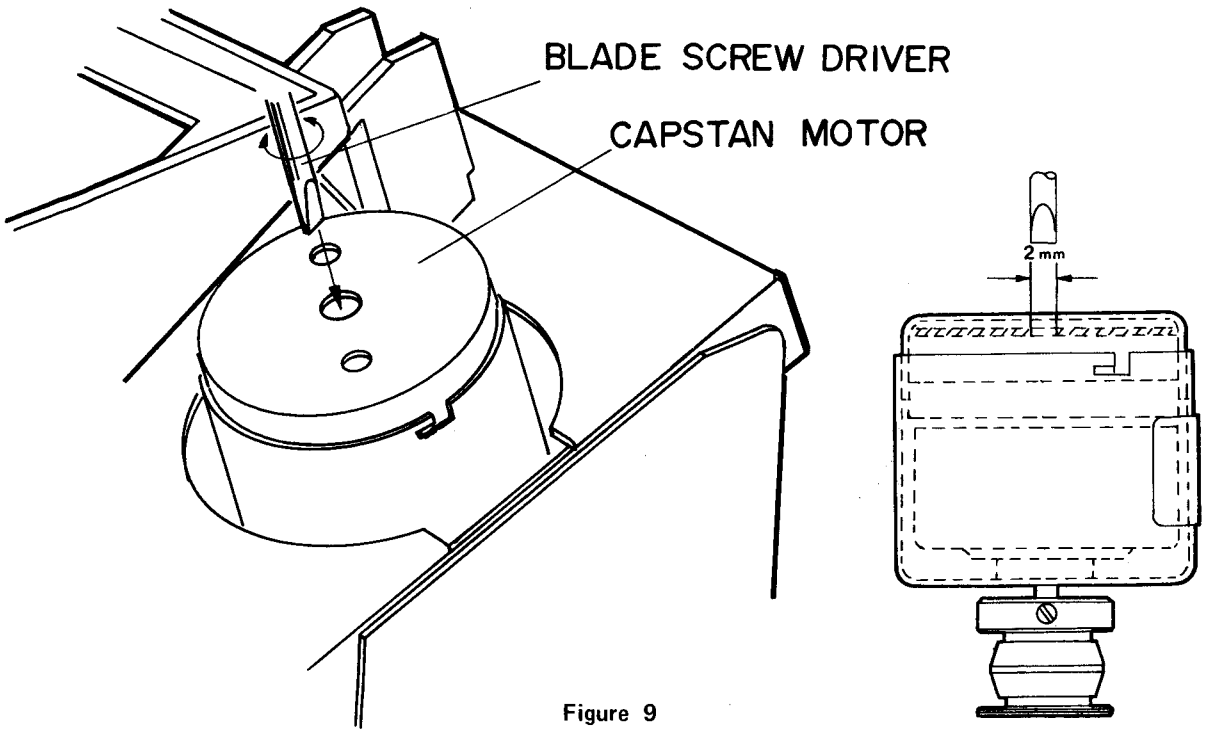
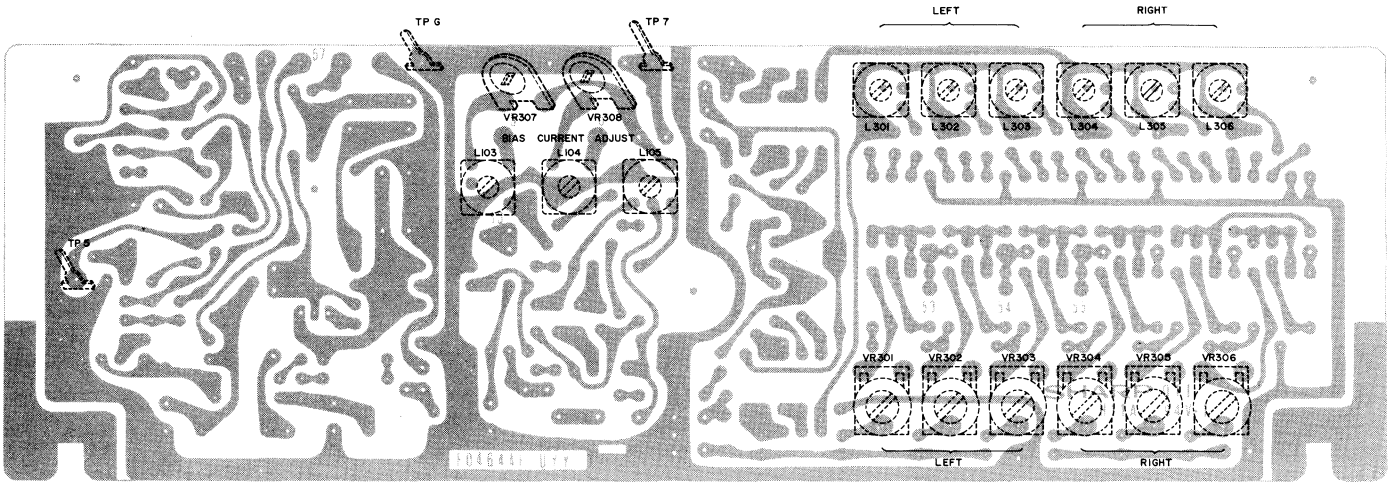
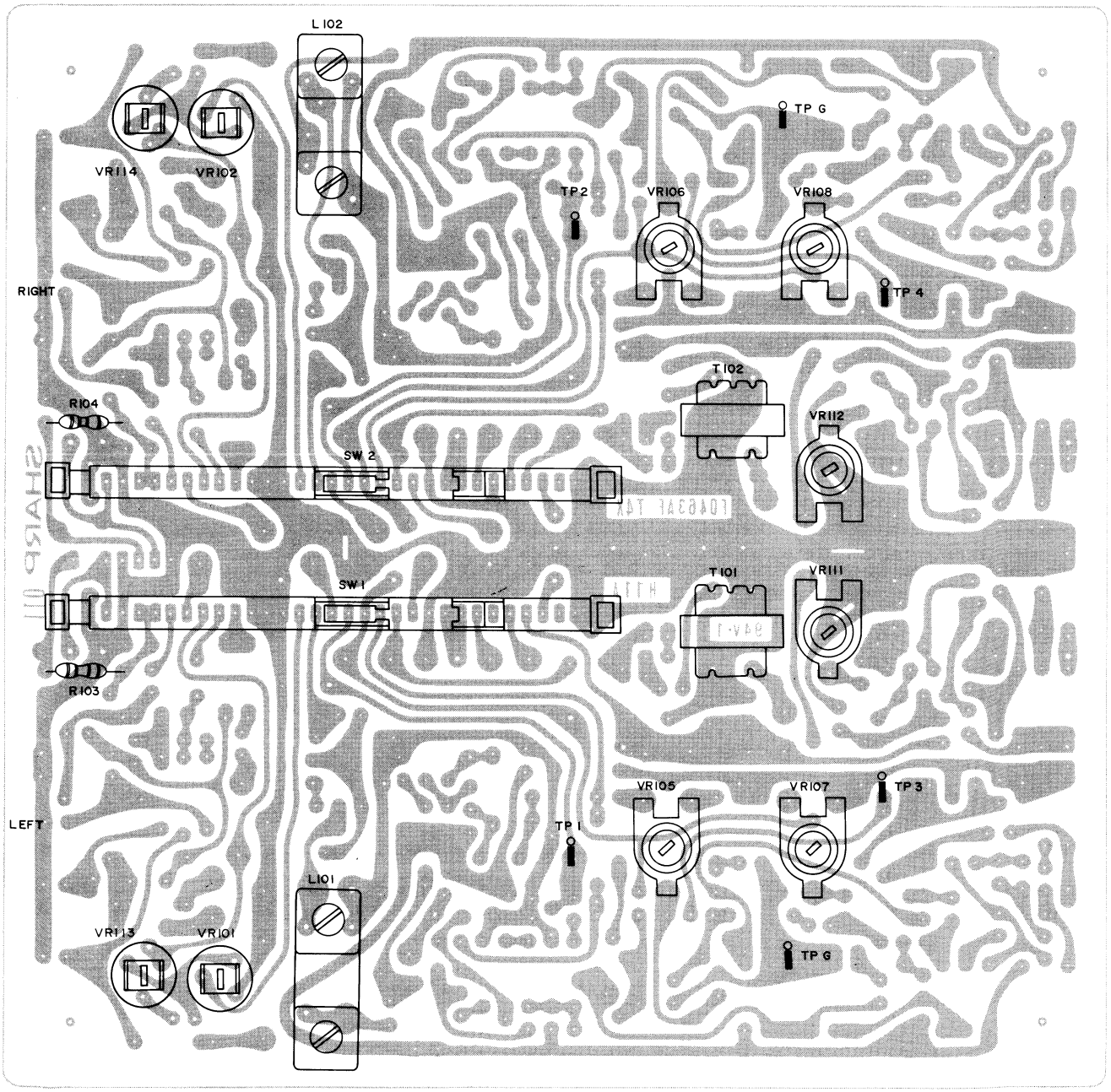


Figure 9

ELECTRICAL ADJUSTMENT





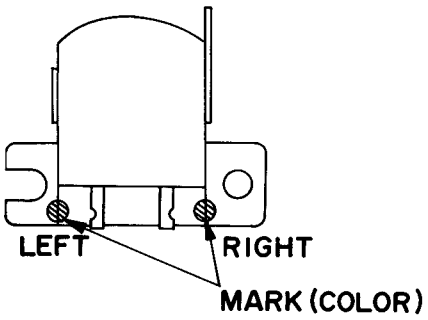
ALIGNMENT POINTS

RECORD AMPLIFIER BIAS OSCILLATOR ADJUSTMENT (Refer to Figure 10)

1) Connect the V.T.V.M. to the resistor (R103, R104).
2) Then, connect the frequency counter to the output terminal of the V.T.V.M.
3) When checking with normal tape, set the Bias Selector Switch (SW8) in the NORMAL position.
4) Set the unit at "RECORD" mode.
5) Adjust the oscillation coil (L105) so that the bias oscillation frequency becomes 84 kHz.
6) Adjust the semi-variable resistor (VR307, VR308) so that the V.T.V.M. reading becomes the value of Table 1.
7) When checking with CrO_2 tape, set Bias Selector Switch (SW8) in the CrO_2 position.
   It is normal if V.T.V.M.'s reading is equal to the value of Table 1.
8) When ckecking with FeCr tape, set Bias Selector Switch (SW8) in the FeCr position.
   It is normal if V.T.V.M.'s reading is equal to the value of Table 1.

Tape / Mark	Normal	FeCr	CrO_2
Green	37.5 mV	37.5 ~ 42.5 mV	48.0 ~ 60.0 mV
Black	42.0 mV	42.5 ~ 47.5 mV	54.0 ~ 66.0 mV
No mark	46.5 mV	47.5 ~ 52.5 mV	61.0 ~ 73.0 mV
Red	51.5 mV	52.5 ~ 57.5mV	69.0 ~ 81.0 mV
Blue	56.0 mV	57.5 ~ 62.5 mV	74.0 ~ 86.0 mV

Table 1



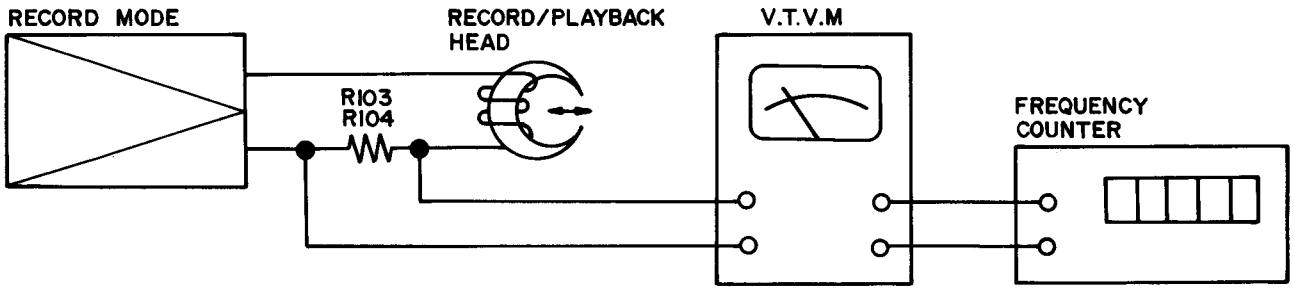


Figure 10

ERASE CURRENT CHECK (Refer to Figure 11)

1) Set the unit at "RECORD" mode with CrO_2 tape.
2) Set the Bias Selector Switch (SW8) in the CrO_2 position.
3) Connect V.T.V.M. to the test point (TP7) and earth (TP-G).
   It is normal if V.T.V.M.'s reading is 65 ~ 105 mV.
4) To check with the NORMAL tape, leave Bias Selector Switch (SW8) in the NORMAL position.
   It is normal if V.T.V.M.'s reading is 40 ~ 80 mV.
5) To check with the FeCr tape, leave Bias Selector Switch (SW8) in the FeCr position.
   It is normal if V.T.V.M.'s reading is 45 ~ 85 mV.

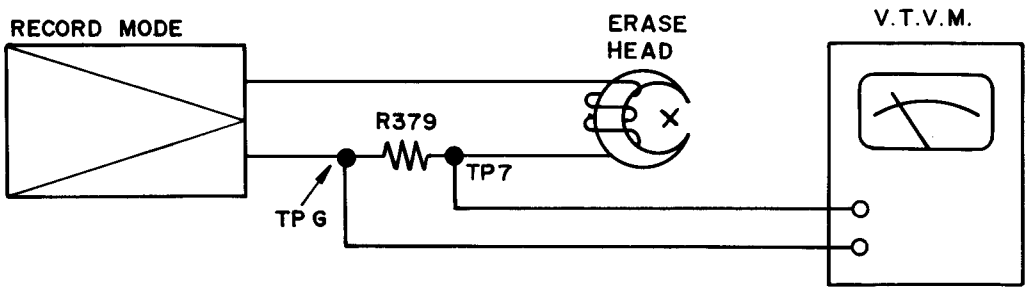


Figure 11

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT (Refer to Figure 12)

1) Set Dolby Noise Reduction Switch (SW10) in the off position.
2) Set Equalizer Selector Switch (SW9) in the NORMAL position.
3) Connect 50K ohm dummy resistor to the LINE OUTPUT Jacks (J107, J108) and connect the V.T.V.M. to its ends.
4) Insert the test tape (MTT-114, 10 kHz Recorded) and play it.
5) Adjust the adjusting screw so that the playback output voltage of the test tape becomes maximum in the sides and the phase between channels gets same.

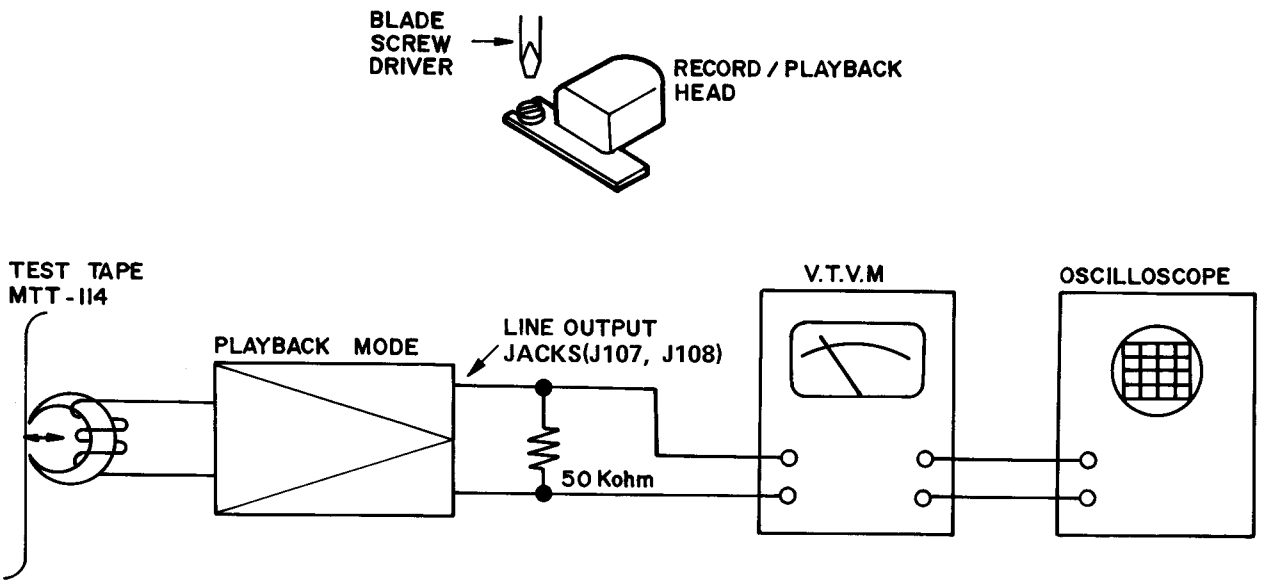


Figure 12

PLAYBACK SENSITIVITY ADJUSTMENT (Refer to Figure 13)

1) Set Dolby Noise Reduction Switch (SW10) in the off position.
2) Set Equalizer Selector Switch (SW9) in the NORMAL position.
3) Connect the V.T.V.M. in between the test point (TP1, TP2) and earth.
4) Insert the test tape (MTT-150, 400 Hz, 200pWb/mm^2 recorded) and play it.
5) At this time, adjust the semi-variable resistor (VR101, VR102) so that the V.T.V.M. reads 580 mV.

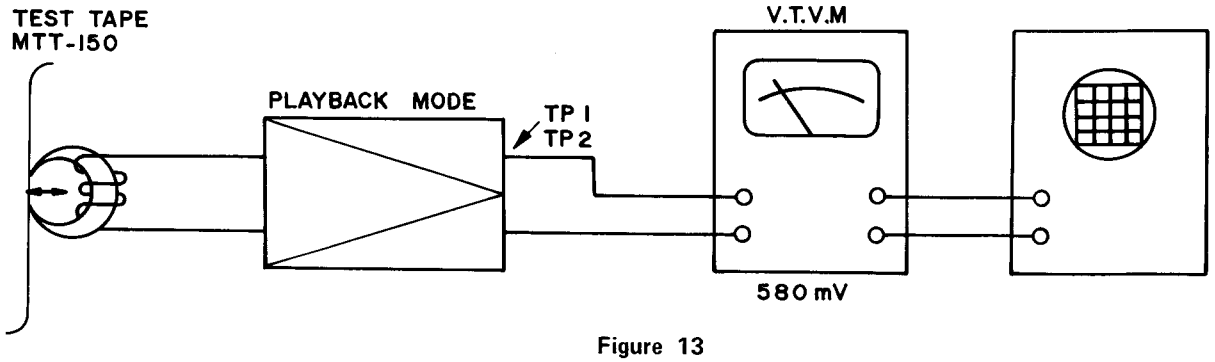


Figure 13

LEVEL METER SENSITIVITY ADJUSTMENT (Refer to Figure 14)

1) Connect the V.T.V.M. between the test point (TP1, TP2) and earth.
2) Set Dolby Noise Reduction Switch (SW10) in the off position, and Input Selector Switch (SW5B) in the LINE INPUT position.
3) With the unit set at "RECORD" mode, give it signal of −10 dB, 1 kHz from LINE INPUT Jacks (J105, J106) and Record Level Control (VR103, VR104) so that the V.T.V.M. reads 580 mV.
4) At the time, adjust the semi-variable resistor (VR111, VR112) so that the level meter indicates Dolby Level (it means a level of "0 dB" indicated on the level meter.)

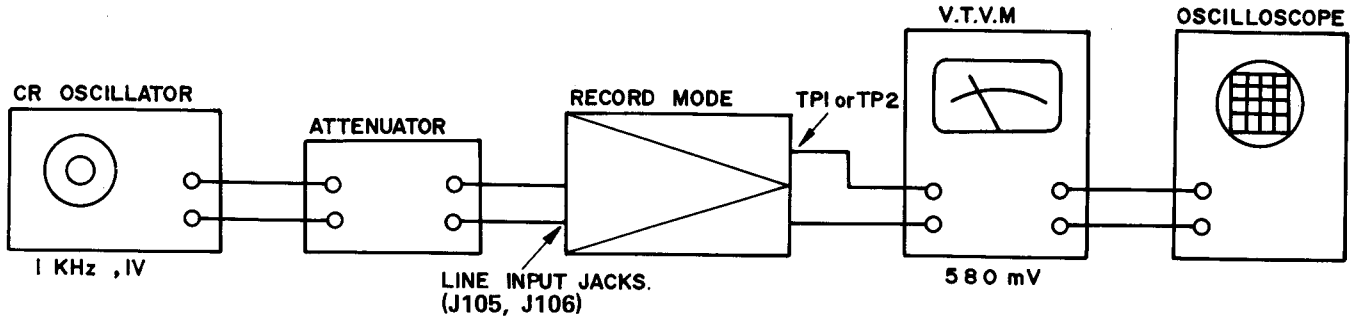


Figure 14

RECORD/PLAYBACK SENSITIVITY ADJUSTMENT (Refer to Figure 15)

1) Connect the V.T.V.M. in between the test point (TP1, TP2) and earth.
2) Set Dolby Noise Reduction Switch (SW10) in the off position, and Input Selector Switch (SW6) in the LINE INPUT position.
3) Insert the tape (Normal tape: MTT-502 or BASF QP-12LH, FeCr tape: SONY Duad Fe-Cr, CrO_2 tape: MTT-505 or BASF TP-18 CrO_2).
4) With the unit set at "RECORD" mode, give it signal of −10dB, 1kHz from LINE INPUT Jacks (J105, 106) and adjust Record Level Control (VR103, VR104) so that the V.T.V.M. reads 580 mV.
5) Adjust the semi-variable resistor (Normal tape: VR301/VR304, FeCr tape: VR302/VR305, CrO_2 tape: VR303/VR306) so that the V.T.V.M. reads the playback voltage of 580 mV.

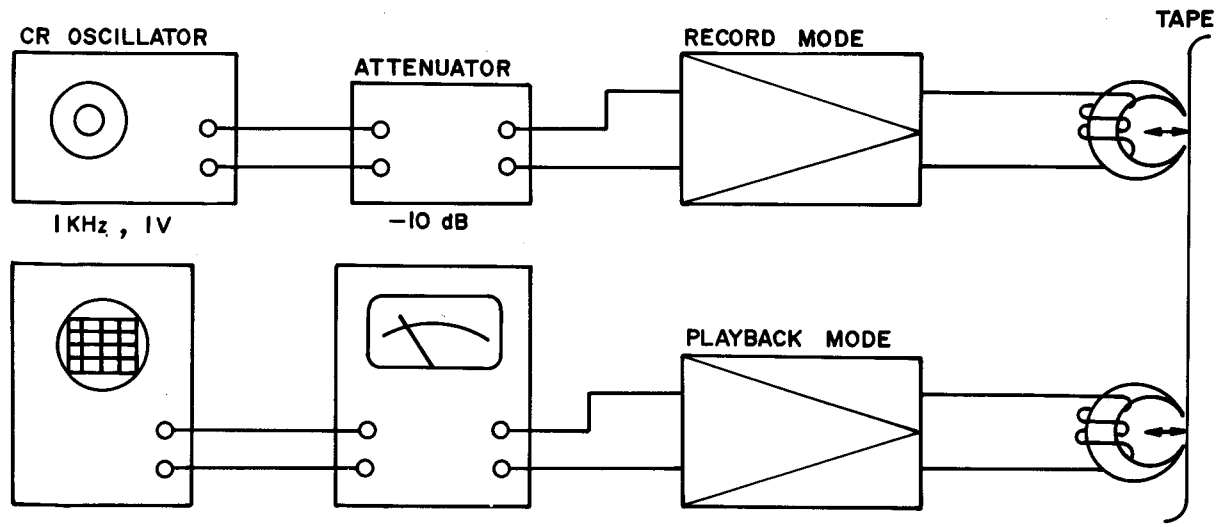


Figure 15

RECORD CIRCUIT FREQUENCY CHARACTERISTIC ADJUSTMENT (Refer to Figure 16)

1) Connect the V.T.V.M. to the resistor (R103, R104).
2) Set Dolby Noise Reduction Switch (SW10) in the off position, and Input Selector Switch (SW6) in the LINE INPUT position.
3) With the unit set at "RECORD" mode, give it signal of −30dB, 1kHz from LINE INPUT Jacks (J105, J106) and adjust Record Level Control (VR103, VR104) so that the V.T.V.M. reads 1mV.
4) Set Equalizer Selector Switch (SW9) in the Normal position.
5) Then change the oscillator frequency to 13 kHz and adjust peaking coil (L301, L304) so that the deviation to 1 mV is +18 dB.
6) Set Equalizer Selector Switch (SW9) in the FeCr position.
7) Then change the oscillator frequency to 15 kHz and adjust peaking coil (L302, L305) so that the deviation to 1 mV is +16 dB.
8) Set Equalizer Selector Switch (SW9) in the CrO_2 position.
9) Adjust peaking coil (L303, L306) so that the deviation to 1 mV is +16 dB.

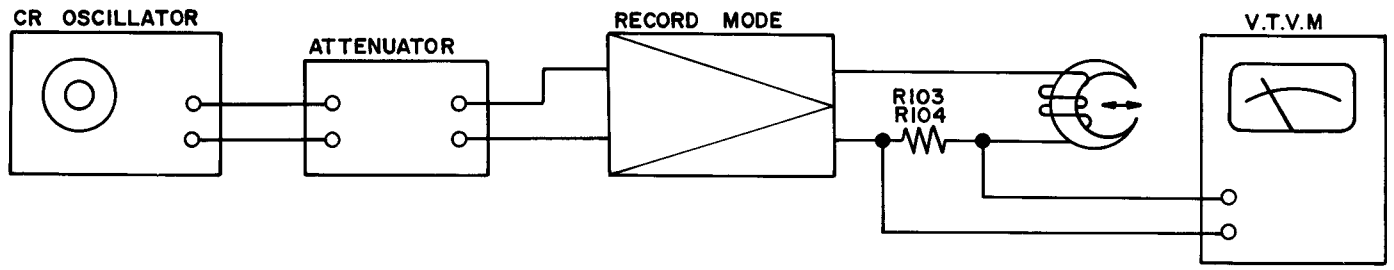


Figure 16

DOLBY NOISE REDUCTION ADJUSTMENT (Refer to Figure 17)

1) Set Input Selector Switch (SW5B) in the LINE INPUT position.
2) With the unit set at "RECORD" mode, give it signal of −10 dB, 5 kHz from LINE INPUT Jacks (J105, J106).
3) Rotate semi-variable resistor (VR105, VR106) in the maximum position (VR105: Fully clockwise, VR106: Fully counter-clockwise).
4) Connect the test point (TP3, TP4) to the earth point.
5) Connect the V.T.V.M. in between the test point (TP1, TP2) and earth point.
6) Set Dolby Noise Reduction Switch (SW10) in the off position.
7) Adjust the Record Level Control (VR103, VR104) so that the V.T.V.M. reads 17.5 mV.
8) Set Dolby Noise Reduction Switch (SW10) in the on position.
9) Adjust the semi-variable resistor (VR107, VR108) so that the V.T.V.M. reads 55.4 mV.
10) Disconnect the test point (TP3, TP4) from the earth point.
11) Adjust the semi-variable resistor (VR105, VR106) so that the V.T.V.M. reads 44 mV.

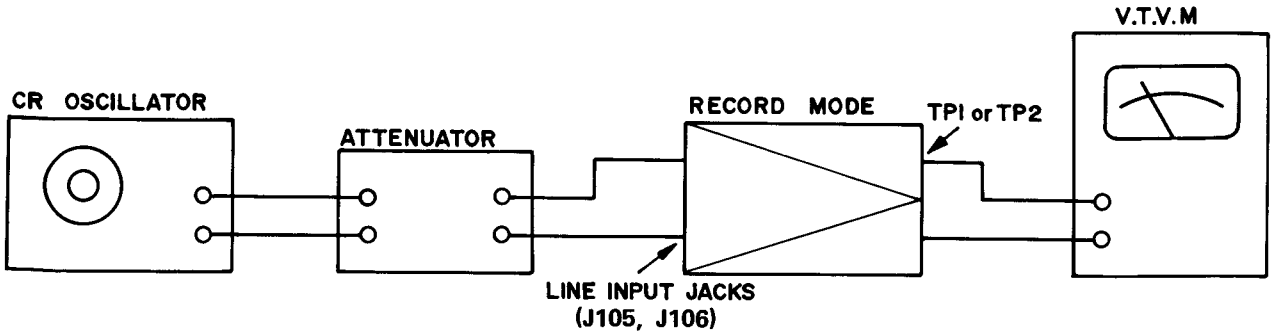


Figure 17

DOLBY NOISE REDUCTION CIRCUIT CHECK (Refer to Figure 18)

1) Connect the V.T.V.M. in between the test point (TP1, TP2) and earth.
2) Set Dolby Noise Reduction Switch (SW 10) in the on position, and Input Selector Switch (SW5B) in the LINE INPUT position.
3) With the unit set at "RECORD" mode, give it signal of −35 dB, 100Hz from LINE INPUT Jacks (J105, J106) and adjust Record Level Control (VR103, VR104) so that the V.T.V.M. reads 32.6 mV.
4) Give the unit 1 kHz signal, 5 kHz signal and 10 kHz signal in the order and if the V.T.V.M. reads as tabulated below with each input signal, it is normal.

Frequency	1 kHz	5 kHz	10 kHz
V.T.V.M. reads	53 ~ 75 mV	53 ~ 75 mV	44 ~ 63 mV

5) Give the unit signal of −50 dB, 100 Hz and adjust Record Level Control (VR103, VR104) so that the V.T.V.M. reads 5.8 mV.
6) In the same manner as in the step 4 above, give the unit 1 kHz signal, 10 kHz signal and 12.5 kHz signal in the order and if the V.T.V.M. reads as tabulated below with each signal, it is normal.

Frequency	1 kHz	10 kHz	12.5 kHz
V.T.V.M. reads	9.5 ~ 13.4 mV	16 ~ 23 mV	15 ~ 24 mV

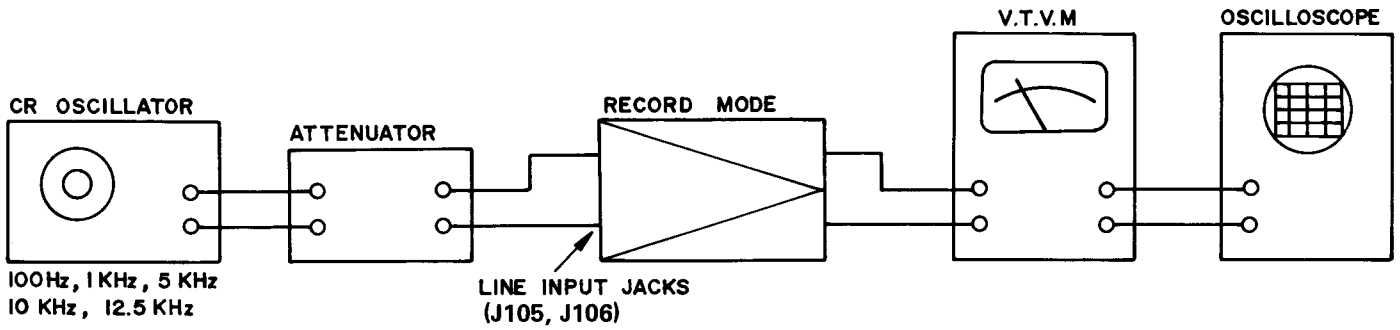


Figure 18

PLAYBACK CIRCUIT FREQUENCY CHARACTERISTIC ADJUSTMENT (Refer to Figure 19)

1) Set Dolby Noise Reduction Switch (SW10) in the off position.
2) Set Equalizer Selector Switch (SW9) in the CrO_2 position.
3) Connect the V.T.V.M. in between the test point (TP1, TP2) and earth.
4) Insert the test tape (MTT-117SP, 40Hz/1kHz/14kHz, 25pWb/mm² recorded) and play it (14kHz only).
5) At this time, adjust the semi-variable resistor (VR113, VR114) so that the V.T.V.M. reads 58 mV.

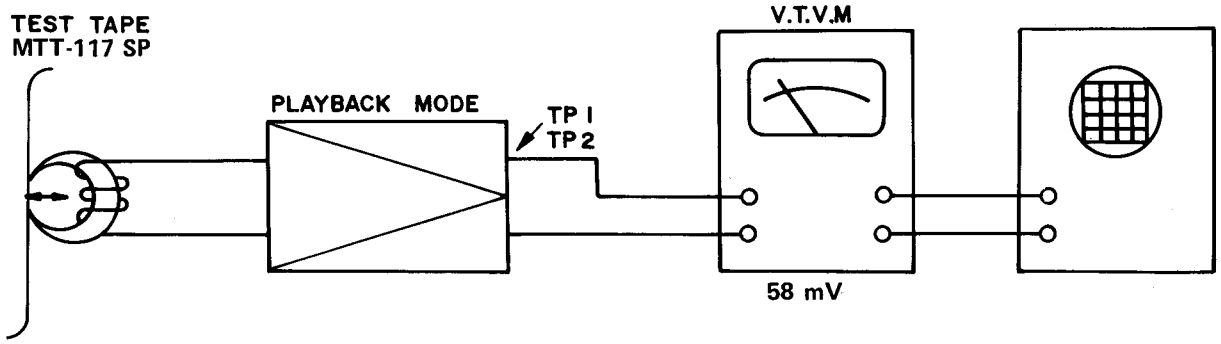


Figure 19

SPACE PAUSE CIRCUIT (Refer to Figure 20)

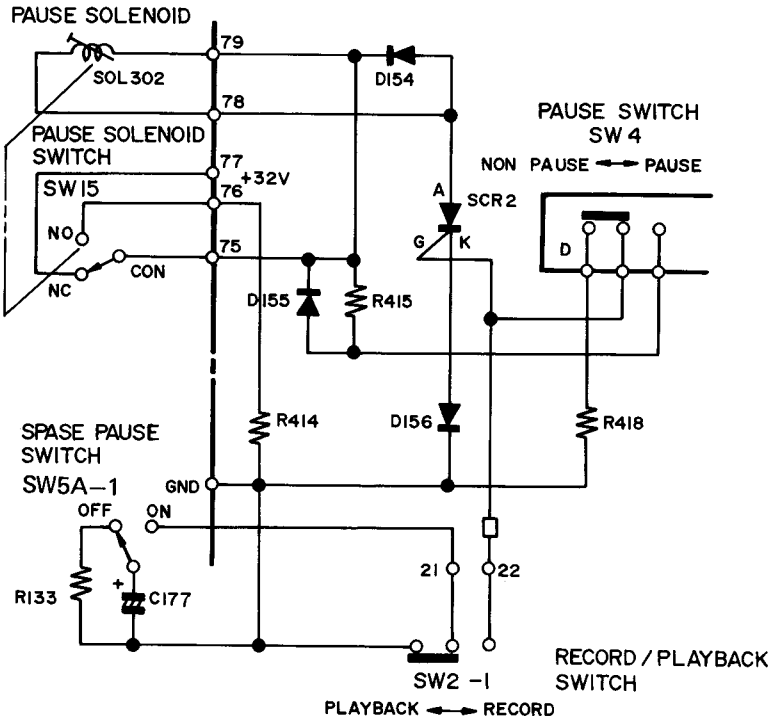


Figure 20

The space pause circuit provides such a function as: when the pause button is depressed in record mode, input signals are automatically subjected to muting condition for about 4 seconds and then the solenoid (SOL302) is activated to make the unit be in pause mode.

Circuit Description:

The space pause circuit is usually powered by a voltage supply of +32V. When the pause button is depressed in record mode, the pause switch (SW4) is turned on, the gate terminal voltage of silicon controlled rectifier (SCR2) is gradually increased by the resistor (R415) and capacitor (C177) which are located at the gate circuit of silicon controlled rectifier (SCR2) and in about 4 seconds thereafter, the junction between the anode terminal and cathode terminal of silicon controlled rectifier (SCR2) becomes conductive. As a result, a current runs in the solenoid (SOL302) to be attracted and then the pause solenoid switch (SW15) is turned off causing no current to run in the pause solenoid (SOL302). Thus, the unit is put in pause mode.

When the pause switch (SW4) is being turned on (pause mode), the input side of record amplifier is connected to the earth, causing no signal to run in the record/play back head - - - no recording is made.

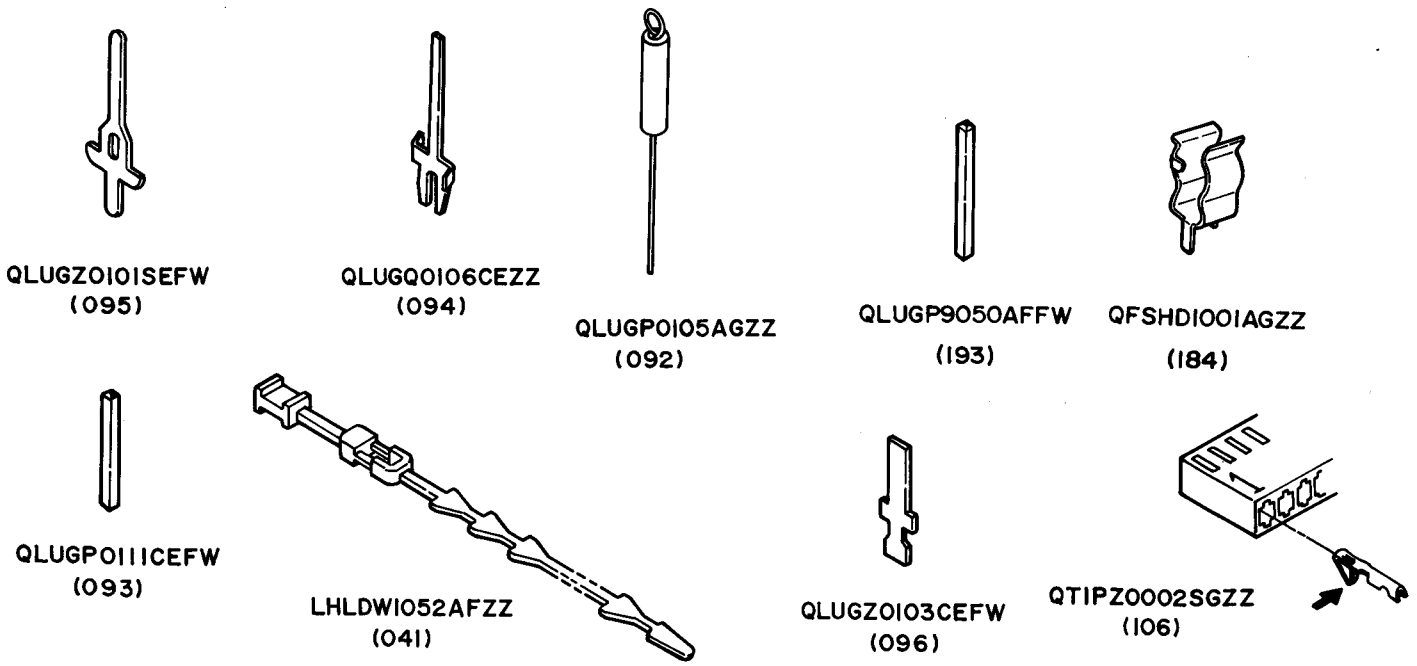


Figure 21

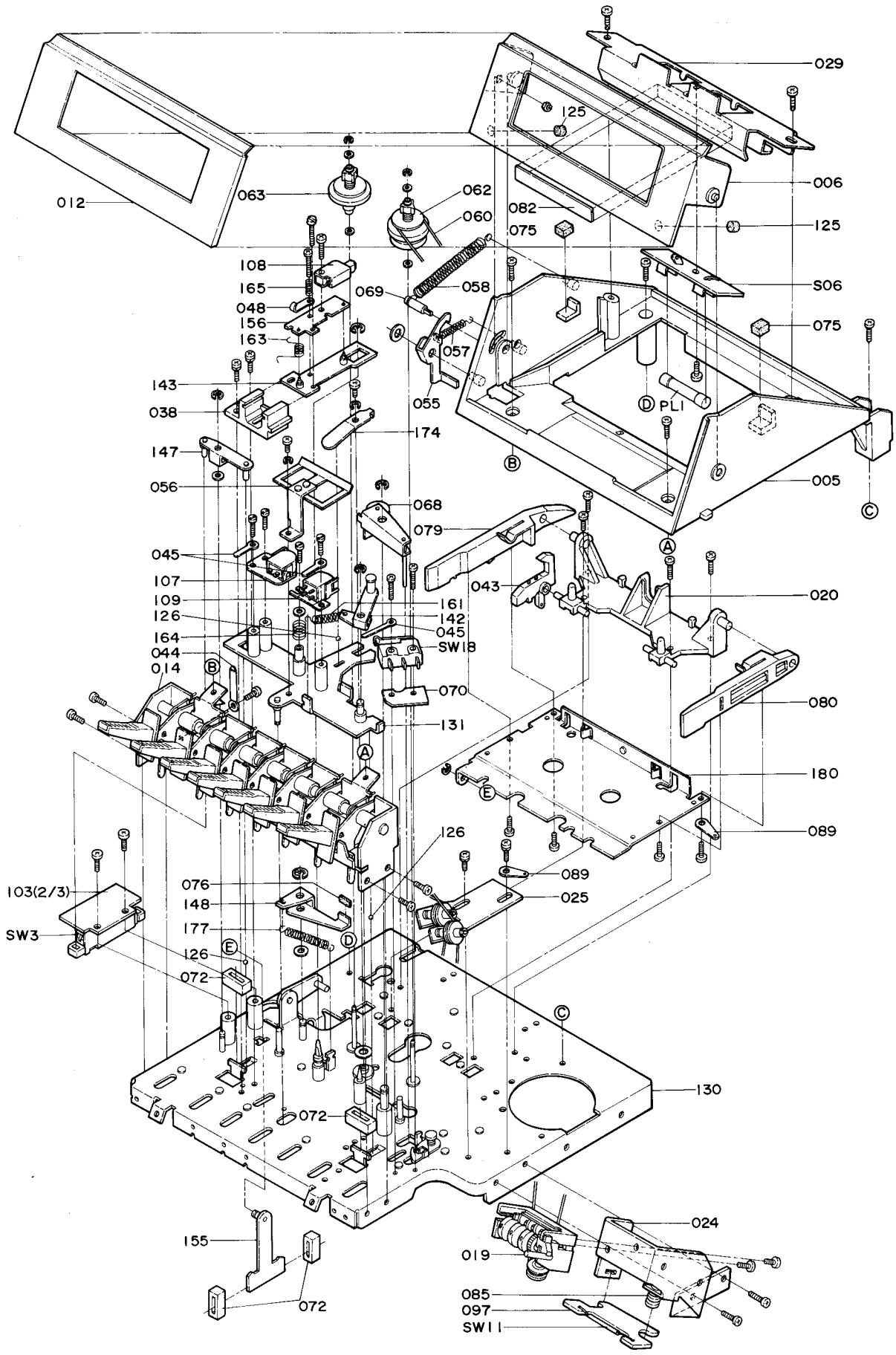


Figure 22 MECHANISM EXPLODED TOP VIEW

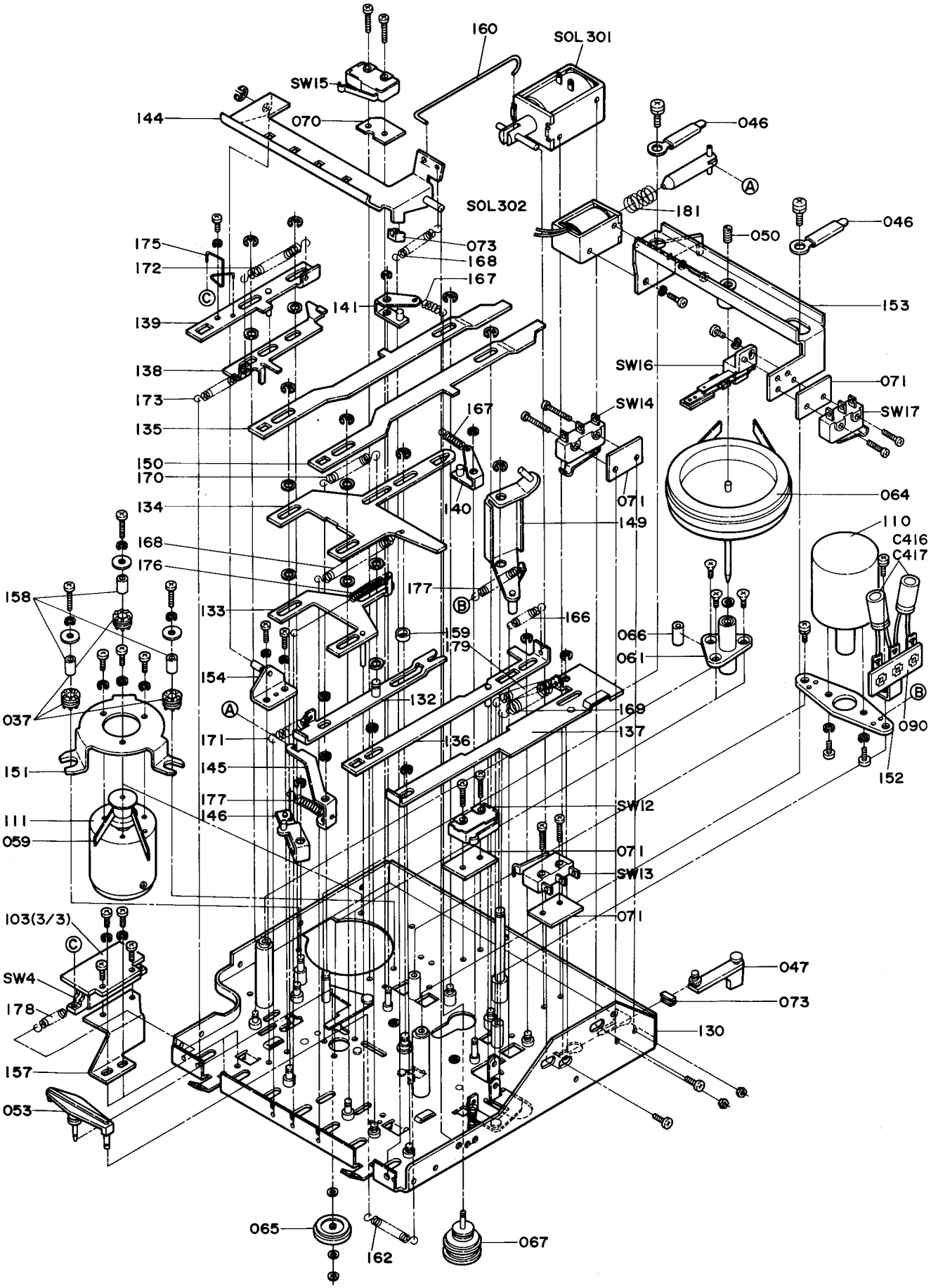


Figure 23 MECHANISM EXPLODED BOTTOM VIEW

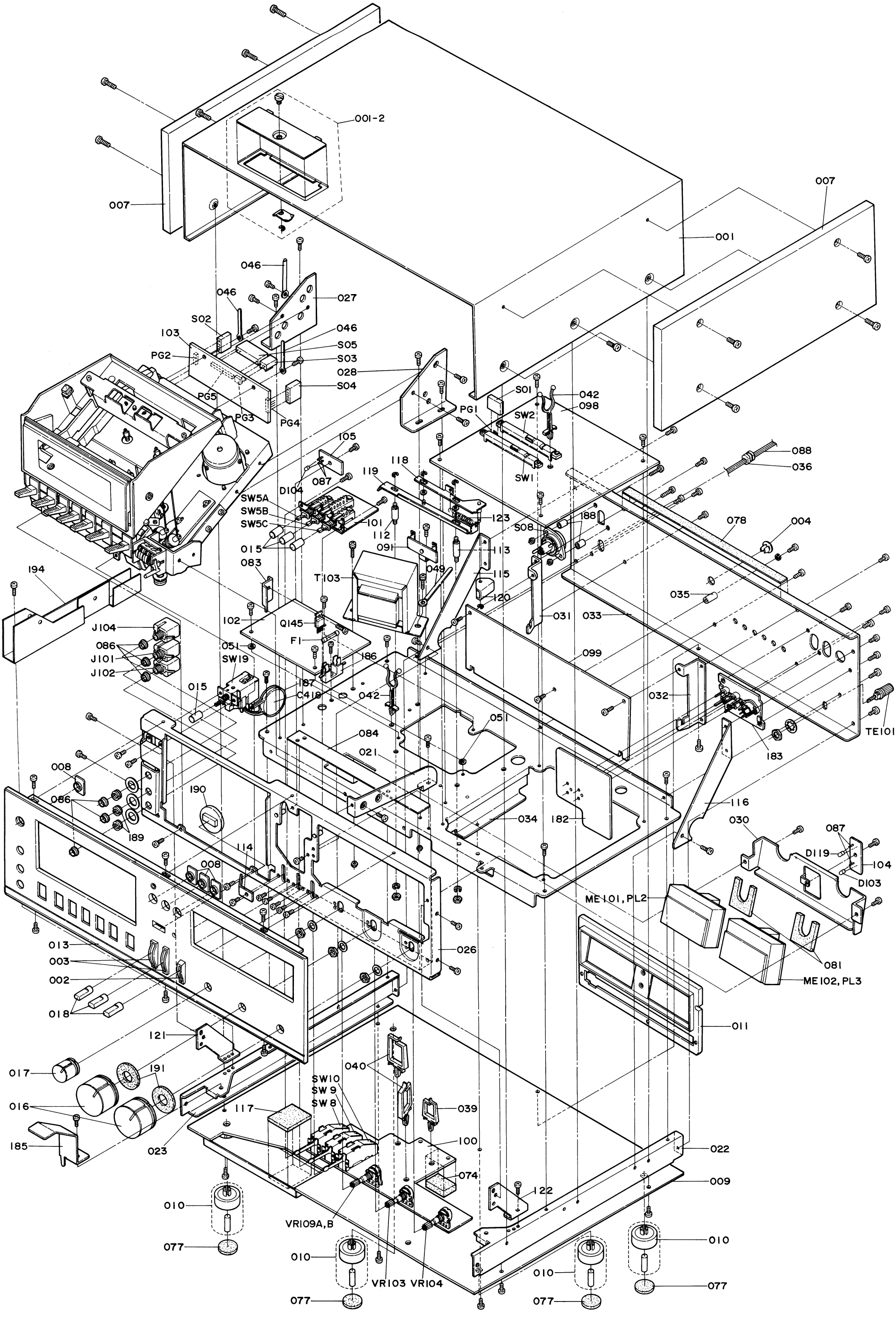


Figure 24 CABINET EXPLODED VIEW

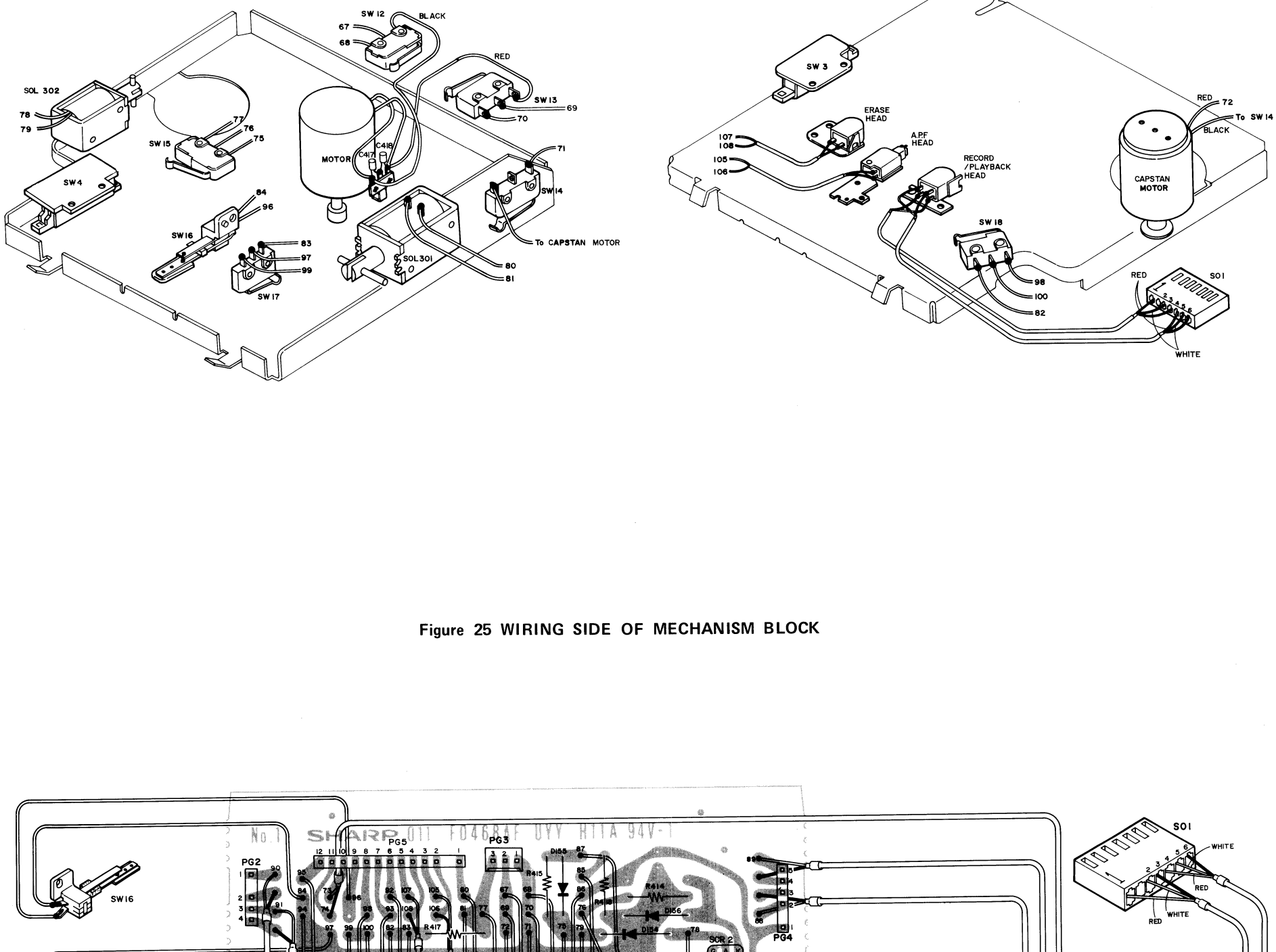


Figure 25 WIRING SIDE OF MECHANISM BLOCK

Figure 26 WIRING SIDE OF MECHANISM CONTROL BOARD

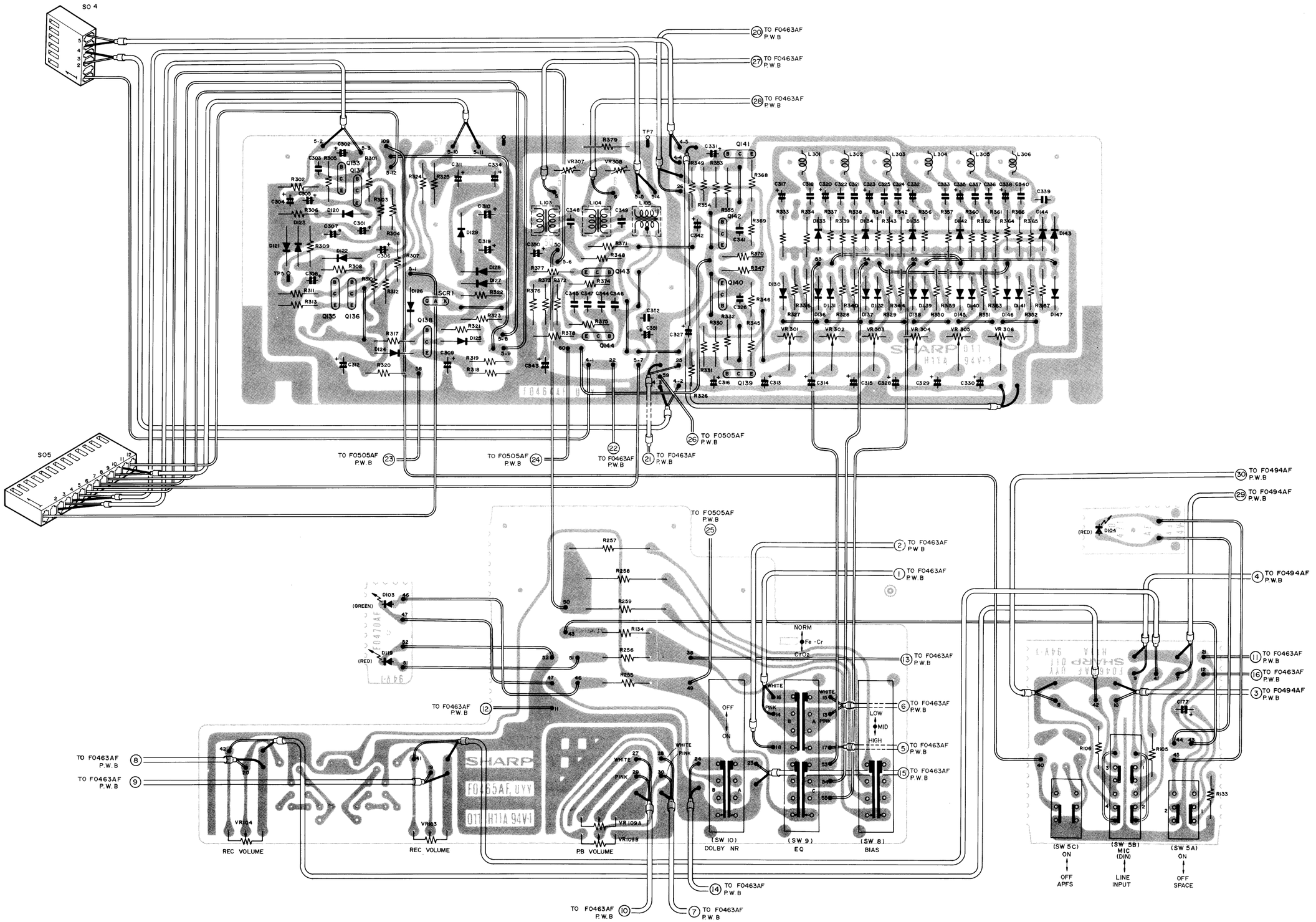


Figure 27 WIRING SIDE OF VOLUME CONTROL BOARD

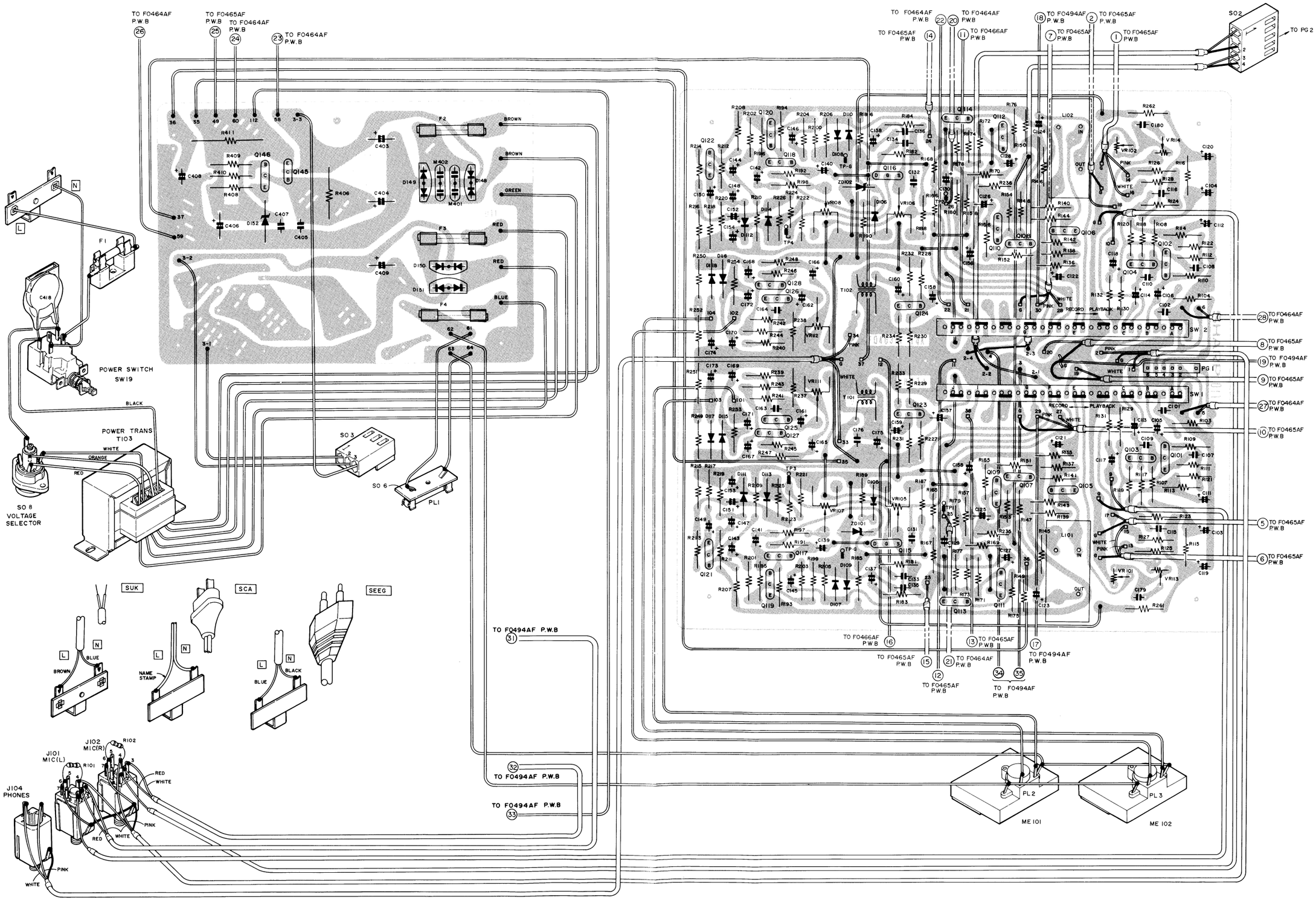
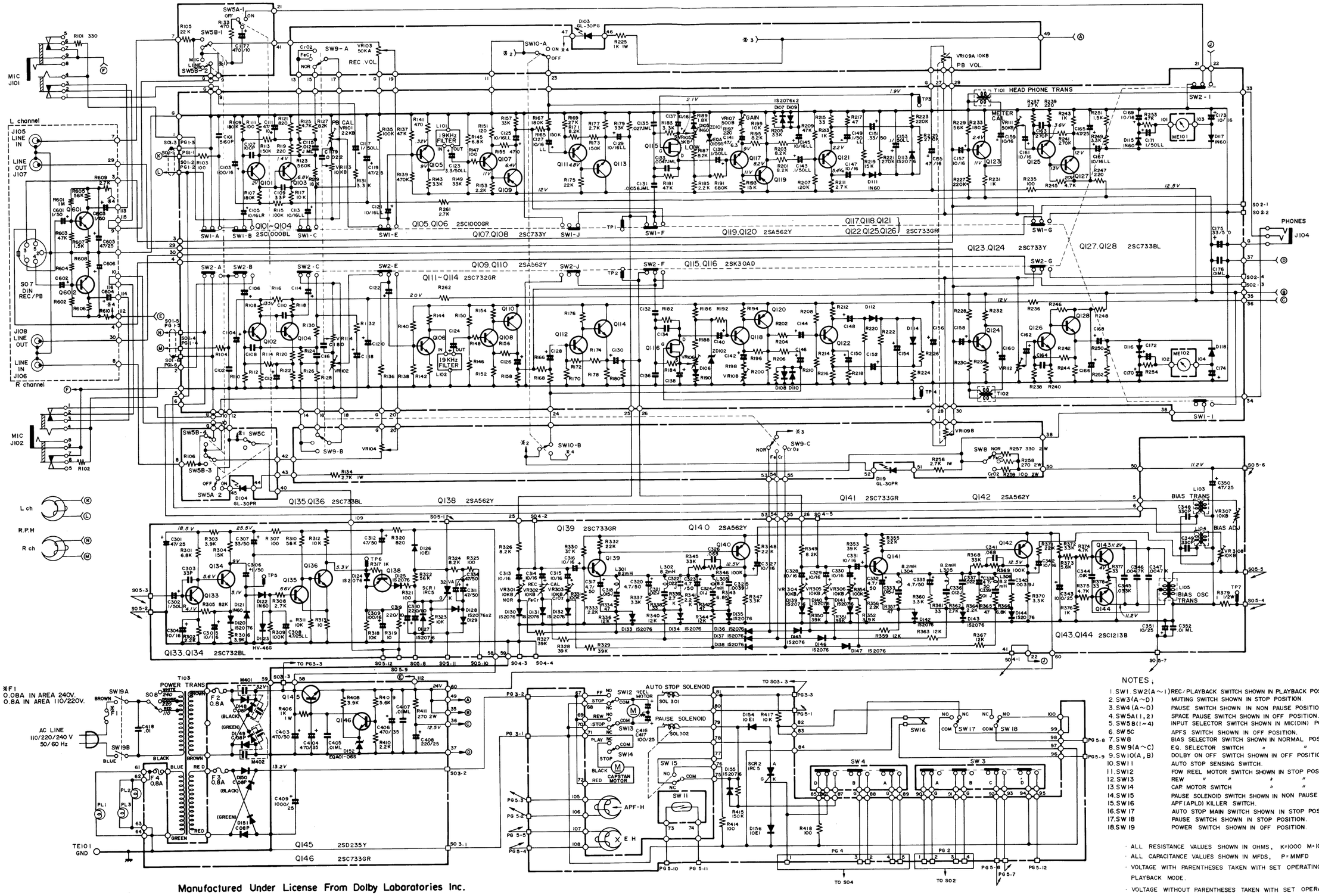


Figure 28 WIRING SIDE OF RECORD/PLAYBACK AMP. BOARD



NOTES;

1. SW1. SW2(A~1) REC/PLAYBACK SWITCH SHOWN IN PLAYBACK POSITION.
2. SW3(A~D) MUTING SWITCH SHOWN IN STOP POSITION.
3. SW4 (A~D) PAUSE SWITCH SHOWN IN NON PAUSE POSITION.
4. SW5A(1,2) SPACE PAUSE SWITCH SHOWN IN OFF POSITION.
5. SW5B(1~4) INPUT SELECTOR SWITCH SHOWN IN MIC(DIN) POSITION.
6. SW5C APFS SWITCH SHOWN IN OFF POSITION.
7. SW8 BIAS SELECTOR SWITCH SHOWN IN NORMAL POSITION.
8. SW9(A~C) EQ SELECTOR SWITCH " "
9. SW10(A,B) DOLBY ON OFF SWITCH SHOWN IN OFF POSITION.
10. SW11 AUTO STOP SENSING SWITCH.
11. SW12 FOW REEL MOTOR SWITCH SHOWN IN STOP POSITION.
12. SW13 REW " " " "
13. SW14 CAP MOTOR SWITCH " "
14. SW15 PAUSE SOLENOID SWITCH SHOWN IN NON PAUSE POSITION.
15. SW16 APF(APLD) KILLER SWITCH.
16. SW17 AUTO STOP MAIN SWITCH SHOWN IN STOP POSITION.
17. SW18 PAUSE SWITCH SHOWN IN STOP POSITION.
18. SW19 POWER SWITCH SHOWN IN OFF POSITION.

- ALL RESISTANCE VALUES SHOWN IN OHMS, K=1000 M=10^6
- ALL CAPACITANCE VALUES SHOWN IN MFDS, P=MMFD
- VOLTAGE WITH PARENTHESES TAKEN WITH SET OPERATING IN PLAYBACK MODE.
- VOLTAGE WITHOUT PARENTHESES TAKEN WITH SET OPERATING IN RECORD MODE.

(Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)

Figure 29 SCHEMATIC DIAGRAM

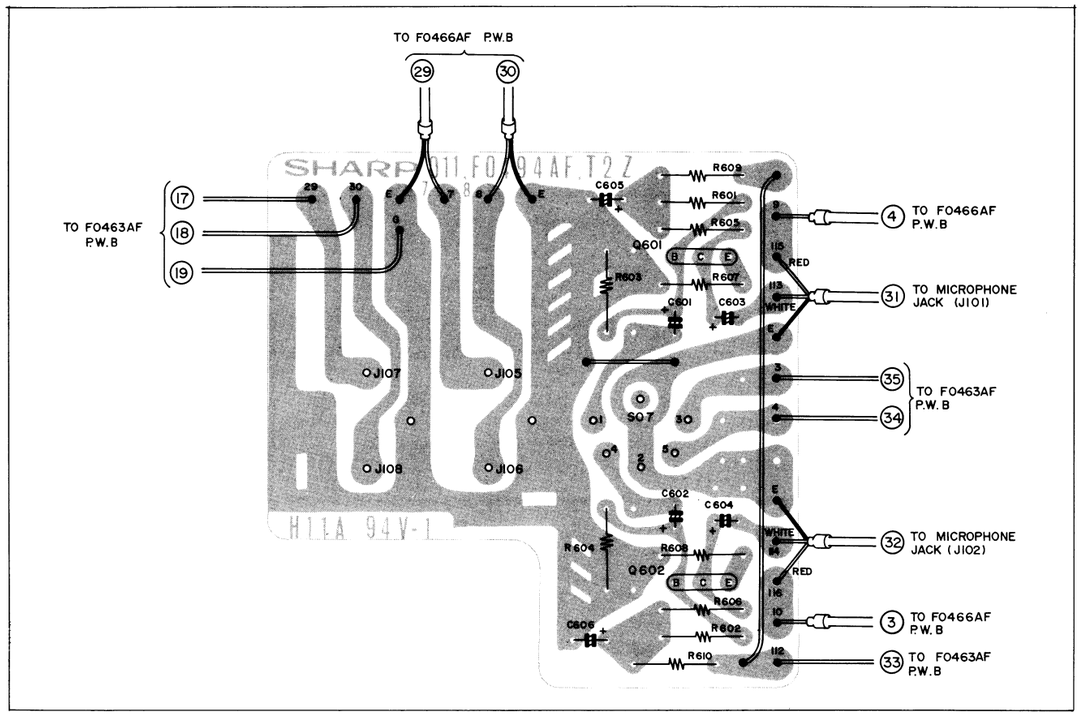


Figure 30 WIRING SIDE OF INPUT/OUTPUT TERMINAL(OLD)

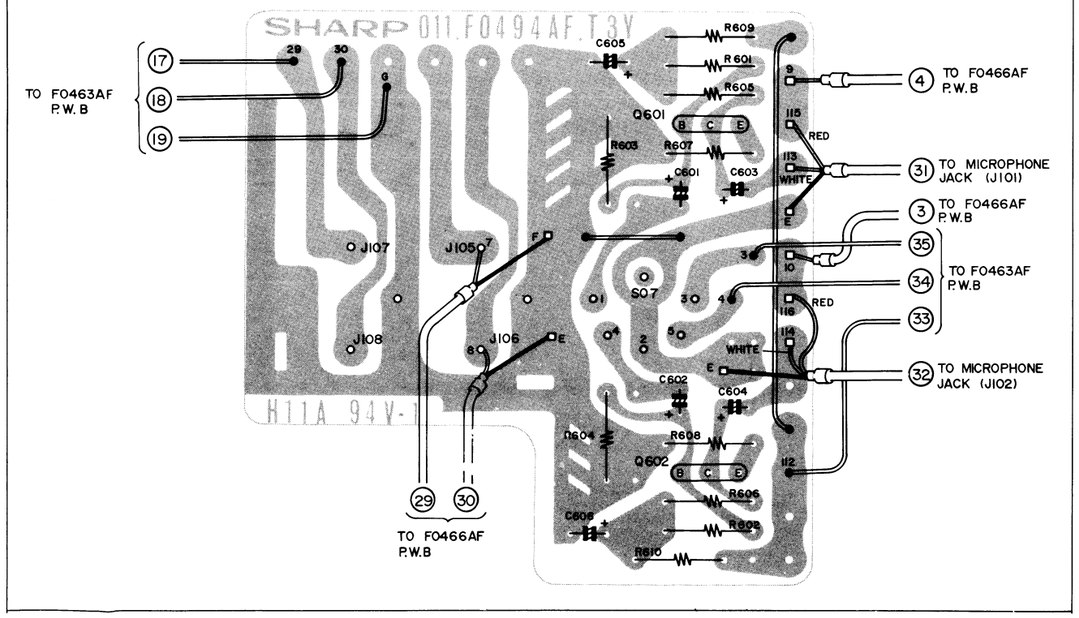
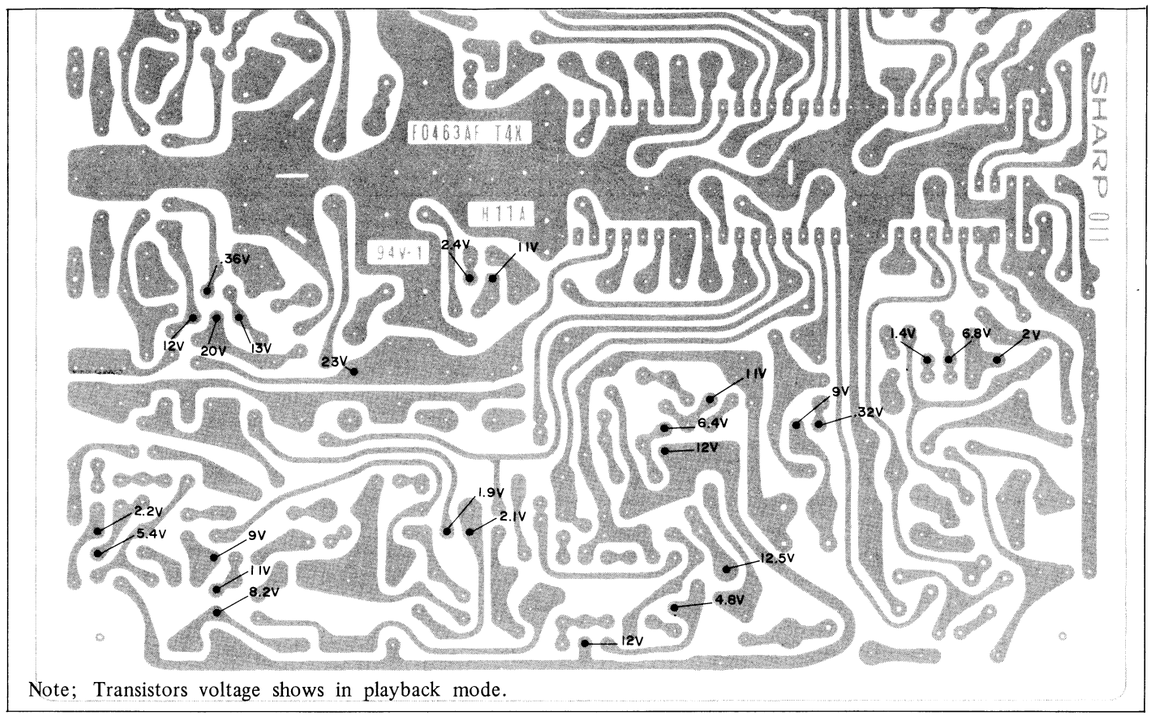
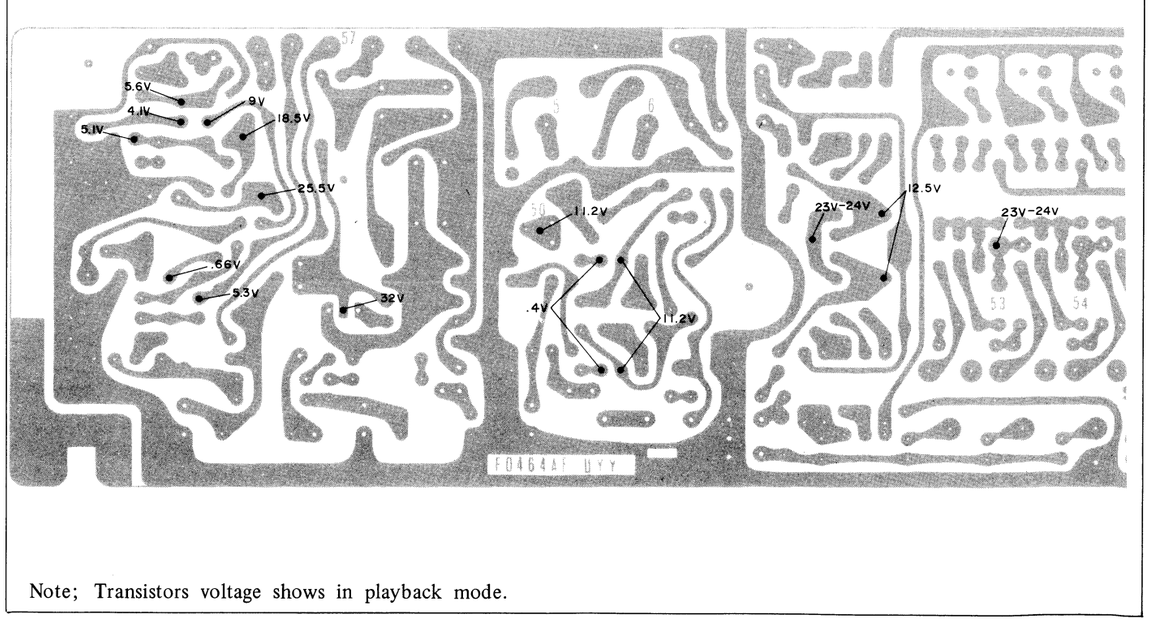


Figure 31 WIRING SIDE OF INPUT/OUTPUT TERMINAL(NEW)



Note; Transistors voltage shows in playback mode.

Figure 32 VOLTAGES ON RECORD/PLAYBACK AMP. BOARD



Note; Transistors voltage shows in playback mode.

Figure 33 VOLTAGES ON BIAS OSCILLATION BOARD

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

REF. NO.	PART NO.	DESCRIPTION	CODE
	TRANSISTORS		
Q101, Q102	VS2SC1000BL-1	Audio Amp.	AF
Q103, Q104	VS2SC1000BL-1	Audio Amp.	AF
Q105, Q106	VS2SC1000GR-1	Audio Amp.	AF
Q107, Q108	VS2SC733-Y/-1	Audio Amp.	AF
Q109, Q110	VS2SA562-Y/-1	Audio Amp.	AG
Q111, Q112	VS2SC732-G/-1	Dolby Summing Amp.	AF
Q113, Q114	VS2SC732-G/-1	Dolby Summing Amp.	AF
Q115, Q116	VS2SK30-D//-1	Dolby Side Chain	AG
Q117, Q118	VS2SC733-G/-1	Dolby Side Chain	AF
Q119, Q120	VS2SA562-Y/-1	Dolby Side Chain	AG
Q121, Q122	VS2SC733-G/-1	Dolby Side Chain	AF
Q123, Q124	VS2SC733-Y/-1	Headphone Amp.	AF
Q125, Q126	VS2SC733-G/-1	Meter Amp.	AF
Q127, Q128	VS2SC733-B/-1	Meter Amp.	AF
Q133	VS2SC732-B/-1	A.P.F. Audio Amp. & Limiter	AF
Q134	VS2SC732-B/-1	A.P.F. Audio Amp. & Limiter	AF
Q135	VS2SC733-B/-1	Schmidt Trigger	AF
Q136	VS2SC733-B/-1	Schmidt Trigger	AF
Q138	VS2SA562-Y/-1	Memory	AG
Q139	VS2SC733-G/-1	Record Equalizer Amp.	AF
Q140	VS2SA562-Y/-1	Record Equalizer Amp.	AG
Q141	VS2SC733-G/-1	Record Equalizer Amp.	AF
Q142	VS2SA562-Y/-1	Record Equalizer Amp.	AG
Q143	VS2SC1213-B-1	Bias Oscillation	AF
Q144	VS2SC1213-B-1	Bias Oscillation	AF
Q145	VS2SD235-Y/-1	Voltage Regulator	AG
Q146	VS2SC733-G/-1	Voltage Regulator	AF
Q601, Q602	VS2SC732-G/-1	REC/PB Amp.	AF
	DIODES		
D103	VHPGL30PG//-1	DOLBY NR Indicator	AG
D104	VHPGL30PR//-1	SPACE Indicator	AD
D105, D106	VHD1N60////-1	Thermal Compensation	AB
D107, D108	VHD1S2076//-1	Limiter	AB
D109, D110	VHD1S2076//-1	Limiter	AB
D111, D112	VHD1N60////-1	Rectifier	AB
D113, D114	VHD1S2076//-1	Time Constant	AB
D115, D116	VHD1N60////-1	Meter Circuit	AB
D117, D118	VHD1N60////-1	Meter Circuit	AB
D119	VHPGL30PR//-1	RECORD Indicator	AD
D120	VHD1S2076//-1	Thermal Compensation	AB
D121	VHD1N60////-1	Rectifier	AB
D122	VHD1N60////-1	Rectifier	AB
D123	VHVHV46-G//-1	Time Constant	AD
D124	VHD1S2076//-1	Clamping	AB
D125	VHD1S2076//-1	Back Current Prevention	AB
D126	RH-DX1006AFZZ	Surge Absorber	AC
D127	VHD1S2076//-1	Clamping	AB
D128	VHD1S2076//-1	Rectifier	AB
D129	VHD1S2076//-1	Rectifier	AB
D130	VHD1S2076//-1	Switching	AB
D131	VHD1S2076//-1	Switching	AB
D132	VHD1S2076//-1	Switching	AB
D133	VHD1S2076//-1	Switching	AB
D134	VHD1S2076//-1	Switching	AB
D135	VHD1S2076//-1	Switching	AB
D136	VHD1S2076//-1	Switching	AB
D137	VHD1S2076//-1	Switching	AB
D138	VHD1S2076//-1	Switching	AB
D139	VHD1S2076//-1	Switching	AB
D140	VHD1S2076//-1	Switching	AB
D141	VHD1S2076//-1	Switching	AB
D142	VHD1S2076//-1	Switching	AB
D143	VHD1S2076//-1	Switching	AB
D144	VHD1S2076//-1	Switching	AB
D145	VHD1S2076//-1	Switching	AB
D146	VHD1S2076//-1	Switching	AB
D147	VHD1S2076//-1	Switching	AB
D148, D150	RH-DX1003AFZZ	Rectifier	AD
D149, D151	RH-DX1004AFZZ	Rectifier	AD
D152	VHEEQA0106S-1	Voltage Regulator	AD
D154	RH-DX1006AFZZ	Surge Absorber	AC
D155	VHD1S2076//-1	Electric Discharge	AB
D156	RH-DX1006AFZZ	S.C.R. Bias	AC
ZD101, ZD102	VHEEQA0109S-1	Zener	AD
SCR1	VHS1RC5////-1	Silicon Controlled Rectifier, Auto Stop	AK

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
SCR2	VHSIRC5////-1	Silicon Controlled Rectifier, Space Pause	AK
		CONTROLS	
VR101, VR102	RVR-M0057AGZZ	22K ohm (B), Playback Sensitivity Adjust	AE
VR103, VR104	RVR-A0112AFZZ	50K ohm (A), RECORD LEVEL control	AE
VR105, VR106	RVR-M0062AGZZ (OLD) RVR-M0126AFZZ (NEW)	5K ohm (B), Gain Adjust	AC
VR107, VR108	RVR-B4010SEZZ (OLD) RVR-M0122AFZZ (NEW)	500 ohm (B), Gain Adjust	AC
VR109 (A, B)	RVR-B0129AFZZ	10K ohm (B), OUTPUT Level Control	AK
VR111, VR112	RVR-M0042AGZZ (OLD) RVR-M0130AFZZ (NEW)	50K ohm (B), Meter Sensitivity Adjust	AC
VR113, VR114	RVR-B0052AGZZ	10K ohm (B), Playback Frequency characteristic Adjust	AE
VR301	RVR-M0117AFZZ	10K ohm (B), Record/ Playback Sensitivity Adjust, Normal	AD
VR302	RVR-M0117AFZZ	10K ohm (B), Record/ Playback Sensitivity Adjust, FeCr	AD
VR303	RVR-M0117AFZZ	10K ohm (B), Record/ Playback Sensitivity Adjust, CrO_2	AD
VR304	RVR-M0117AFZZ	10K ohm (B), Record/ Playback Sensitivity Adjust, Normal	AD
VR305	RVR-M0117AFZZ	10K ohm (B), Record/ Playback Sensitivity Adjust, FeCr	AD
VR306	RVR-M0117AFZZ	10K ohm (B), Record/ Playback Sensitivity Adjust, CrO_2	AD
VR307, VR308	RVR-M0026AGZZ	10K ohm (B), Bias Current Adjust	AC
		COILS	
L101, L102	RCILL0050AFZZ	19kHz Low Pass Filter	AL
L103, L104	RCILB0087AGZZ	Bias Step-up	AF
L105	RCILB0085AGZZ	Bias Oscillation	AF
L301, L302	RCILZ0054AFZZ	Record Equalizer	AE
L303, L304	RCILZ0054AFZZ	Record Equalizer	AE
L305, L306	RCILZ0054AFZZ	Record Equalizer	AE
		TRANSFORMERS	
T101, T102	RTRNS0027AGZZ	Headphone Output	AE
T103	RTRNP0431AFZZ	Power	AZ
		PACKAGED CIRCUITS	
M401, M402	RMPTE0001AFZZ	Capristor, .01MFD x 2	AB
		CAPACITORS	
C101, C102	VCKYPU1HB561K	560PF, 50V, +10 −10% Ceramic	AA
C107, C108	VCCSPU1HL101K	100PF, 50V, +10 −10%, Ceramic	AA
C109, C110	VCCSPU1HL330K	33PF, 50V, +10 −10%, Ceramic	AA
C115, C116	VCQYKU1HM123J	.012MFD, 50V, +5 −5%, Mylar	AC
C131, C132	VCQYKU1HM562J	.0056MFD, 50V, +5 −5%, Mylar	AC
C133, C134	VCQYKU1HM472J	.0047MFD, 50V, +5 −5%, Mylar	AC
C135, C136	VCQYKU1HM273J	.027MFD, 50V, +5 −5%, Mylar	AC
C163, C164	VCCSPU1HL271K	270PF, 50V, +10 −10%, Ceramic	AB
C176	VCQYKU1HM103M	.01MFD, 50V, +20 −20%, Mylar	AB
C179, C180	VCQYKU1HM222J	.0022MFD, 50V, +5 −5%, Mylar	AB
C303	VCCSPU1HL330K	33PF, 50V, +10 −10%, Ceramic	AA
C318	VCQYKU1HM153J	.015MFD, 50V, +5 −5%, Mylar	AC
C321	VCQYKU1HM123J	.012MFD, 50V, +5 −5%, Mylar	AC
C322	VCQYKU1HM223J	.022MFD, 50V, +5 −5% Mylar	AC
C324	VCQYKU1HM103J	.01MFD, 50V, +5 −5%, Mylar	AB
C325	VCQYKU1HM392J	.0039MFD, 50V, +5 −5%, Mylar	AC
C326	VCQYKU1HM683K	.068MFD, 50V, +10 −10%, Mylar	AC
C333	VCQYKU1HM153J	.015MFD, 50V, +5 −5%, Mylar	AC
C336	VCQYKU1HM123J	.012MFD, 50V, +5 −5% Mylar	AC
C337	VCQYKU1HM223J	.022MFD, 50V, +5 −5%, Mylar	AC
C339	VCQYKU1HM103J	.01MFD, 50V, +5 −5%, Mylar	AB
C340	VCQYKU1HM392J	.0039MFD, 50V, +5 −5%, Mylar	AC
C341	VCQYKU1HM683K	.068MFD, 50V, +10 −10%, Mylar	AC
C344	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C345	VCQYKU1HM333K	.033MFD, 50V, +10 −10%, Mylar	AB

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
C346	VCQYKU1HM472K	.0047MFD, 50V, +10 −10%, Mylar	AB
C347	VCQYKU1HM472K	.0047MFD, 50V, +10 −10%, Mylar	AB
C348	VCCSPU1HL331K	330PF, 50V, +10 −10%, Ceramic	AB
C349	VCCSPU1HL331K	330PF, 50V, +10 −10%, Ceramic	AB
C352	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C405	VCQYKU1HM103M	.01MFD, 50V, +20 −20%, Mylar	AB
C407	VCQYKU1HM103M	.01MFD, 50V, +20 −20%, Mylar	AB
C418	RC-KZ0087AGZZ	.01MFD, 400V, +100 −0%, Ceramic	AE

ELECTROLYTIC CAPACITORS

REF. NO.	PART NO.	DESCRIPTION	CODE
C103, C104	VCEAAU1CW107Y	100MFD, 16V, +50 −10%	AC
C105, C106	VCEALU1CC106Y	10MFD, 16V, +50 −10%	AC
C111, C112	VCEAAU1AW476Y	47MFD, 10V, +50 −10%	AB
C113, C114	VCEALU1CW106M	10MFD, 16V, +20−20%	AB
C117, C118	VCEALU1HW105M	1MFD, 50V, +20 −20%	AD
C119, C120	VCEAAU1EW476Y	47MFD, 25V, +50 −10%	AC
C121, C122	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C123, C124	VCEALU1HW335M	3.3MFD, 50V, +20 −20%	AC
C125, C126	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C127, C128	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C129, C130	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C137, C138	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C139, C140	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C141, C142	VCEAAU0XW476Y	47MFD, 6.3V, +50 −10%	AB
C143, C144	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C145, C146	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C147, C148	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C149, C150	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C151, C152	VCEALU1HW334M	.33MFD, 50V, +20 −20%	AB
C153, C154	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C155, C156	VCEAAU1CW476Y	47MFD, 16V, +50 −10%	AC
C157, C158	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C159, C160	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C161, C162	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C165, C166	VCEAAU1EW476Y	47MFD, 25V, +50 −10%	AC
C167, C168	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C169, C170	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C171, C172	VCEALU1HW105M	1MFD, 50V, +20 −20%	AD
C173, C174	VCEALU1CW106M	10MFD, 16V, +20 −20%	AB
C175	VCEAAU1HW336Y	33MFD, 50V, +50 −10%	AC
C177	VCEAAU1AW477Y	470MFD, 10V, +50 −10%	AD
C301	VCEAAU1EW476Y	47MFD, 25V, +50 −10%	AC
C302	VCEALU1HC105A	1MFD, 50V, +75 −10%	AC
C304	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C305	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C306	VCEAAU1HW105Y	1MFD, 50V, +50 −10%	AB
C307	VCEAAU1HW336Y	33MFD, 50V, +50 −10%	AC
C308	VCEALU1EW475M	4.7MFD, 25V, +20 −20%	AD
C309	VCEAAU1CW107Y	100MFD, 16V, +50 −10%	AC
C310	VCEAAU1AW227Y	220MFD, 10V, +50 −10%	AC
C311	VCEAAU1HW476Y	47MFD, 50V, +50 −10%	AC
C312	VCEAAU1HW476Y	47MFD, 50V, +50 −10%	AC
C313	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C314	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C315	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C316	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C317	VCEAAU1HW475Y	4.7MFD, 50V, +50 −10%	AB
C319	VCEAAU1AW227Y	220MFD, 10V, +50 −10%	AC
C320	VCEAAU1HW475Y	4.7MFD, 50V, +50 −10%	AB
C323	VCEAAU1HW475Y	4.7MFD, 50V, +50 −10%	AB
C327	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C328	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C329	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C330	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C331	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C332	VCEAAU1HW475Y	4.7MFD, 50V, +50 −10%	AB
C334	VCEAAU1HW476Y	47MFD, 50V, +50 −10%	AC
C335	VCEAAU1HW475Y	4.7MFD, 50V, +50 −10%	AB
C338	VCEAAU1HW475Y	4.7MFD, 50V, +50−10%	AB
C342	VCEAAU1CW106Y	10MFD, 16V, +50 −10%	AB
C343	VCEAAU1EW107Y	100MFD, 25V, +50 −10%	AC
C350	VCEAAU1EW476Y	47MFD, 25V, +50 −10%	AC
C351	VCEAAU1EW106Y	10MFD, 25V, +50 −10%	AB
C403	VCEAAU1HW477Y	470MFD, 50V, +50 −10%	AG
C404	VCEAAU1VW477Y	470MFD, 35V, +50 −10%	AE
C406	VCEAAU1VW477Y	470MFD, 35V, +50 −10%	AE
C408	VCEAAU1EW227Y	220MFD, 25V, +50 −10%	AC
C409	VCEAAU1EW108Y	1000MFD, 25V, +50 −10%	AF
C416, C417	VCEAAU1EW107Y	100MFD, 25V, +50 −10%	AC
C601, C602	VCEALU1HW105M	1MFD, 50V, +20 −20%	AD
C603, C604	VCEALU1HW105M	1MFD, 50V, +20 −20%	AD
C605, C606	VCEAAU1EW476Y	47MFD, 25V, +50 −10%	AC

PARTS LIST

RESISTORS

(Unless otherwise specified resistors are 1/4W, ±5%, Carbon type)

REF. NO.	PART NO.	DESCRIPTION	CODE
R101, R102	VRD-ST2EE331J	330 ohm	AA
R103, R104	VRD-ST2EE101J	100 ohm	AA
R105, R106	VRD-ST2EE223J	22K ohm	AA
R107, R108	VRD-ST2EE184J	180K ohm	AA
R109, R110	VRD-ST2EE184J	180K ohm	AA
R111, R112	VRD-ST2EE101J	100 ohm	AA
R113, R114	VRD-ST2EE154J	150K ohm	AA
R115, R116	VRD-ST2EE104J	100K ohm	AA
R117, R118	VRD-ST2EE103J	10K ohm	AA
R119, R120	VRD-ST2EE221J	220 ohm	AA
R121, R122	VRD-ST2EE821J	820 ohm	AA
R123, R124	VRD-ST2EE564J	560K ohm	AA
R125, R126	VRD-ST2EE472J	4.7K ohm	AA
R127, R128	VRD-ST2EE822J	8.2K ohm	AA
R129, R130	VRD-ST2EE183J	18K ohm	AA
R131, R132	VRD-ST2EE332J	3.3K ohm	AA
R133	VRD-ST2EE471J	470 ohm	AA
R134	VRS-PT3AB272J	2.7K ohm, 1W, +5 −5%, Oxide Film	AB
R135, R136	VRD-ST2EE104J	100K ohm	AA
R137, R138	VRD-ST2EE473J	47K ohm	AA
R139, R140	VRD-ST2EE474J	470K ohm	AA
R141, R142	VRD-ST2EE471J	470 ohm	AA
R143, R144	VRD-ST2EE332J	3.3K ohm	AA
R145, R146	VRD-ST2EE682J	6.8K ohm	AA
R147, R148	VRD-ST2EE101J	100 ohm	AA
R149, R150	VRD-ST2EE333J	33K ohm	AA
R151, R152	VRD-ST2EE121J	120 ohm	AA
R153, R154	VRD-ST2EE222J	2.2K ohm	AA
R155, R156	VRD-ST2EE471J	470 ohm	AA
R157, R158	VRD-ST2EE333J	33K ohm	AA
R165, R166	VRD-ST2EE154J	150K ohm	AA
R167, R168	VRD-ST2EE184J	180K ohm	AA
R169, R170	VRD-ST2EE273J	27K ohm	AA
R171, R172	VRD-ST2EE822J	8.2K ohm	AA
R173, R174	VRD-ST2EE154J	150K ohm	AA
R175, R176	VRD-ST2EE223J	22K ohm	AA
R177, R178	VRD-ST2EE272J	2.7K ohm	AA
R179, R180	VRD-ST2EE333J	33K ohm	AA
R181, R182	VRD-ST2EE473J	47K ohm	AA
R183, R184	VRD-ST2EE332J	3.3K ohm	AA
R185, R186	VRD-ST2EE222J	2.2K ohm	AA
R187, R188	VRD-ST2EE822J	8.2K ohm	AA
R189, R190	VRD-ST2EE182J	1.8K ohm	AA
R191, R192	VRD-ST2EE684J	680K ohm	AA
R193, R194	VRD-ST2EE153J	15K ohm	AA
R195, R196	VRD-ST2EE822J	8.2K ohm	AA
R197, R198	VRD-ST2EE221J	220 ohm	AA
R199, R200	VRD-ST2EE103J	10K ohm	AA
R201, R202	VRD-ST2EE822J	8.2K ohm	AA
R203, R204	VRD-ST2EE822J	8.2K ohm	AA
R205, R206	VRD-ST2EE333J	33K ohm	AA
R207, R208	VRD-ST2EE124J	120K ohm	AA
R209, R210	VRD-ST2EE473J	47K ohm	AA
R211, R212	VRD-ST2EE272J	2.7K ohm	AA
R213, R214	VRD-ST2EE102J	1K ohm	AA
R215, R216	VRD-ST2EE330J	33 ohm	AA
R217, R218	VRD-ST2EE470J	47 ohm	AA
R219, R220	VRD-ST2EE153J	15K ohm	AA
R221, R222	VRD-ST2EE274J	270K ohm	AA
R223, R224	VRD-ST2EE224J	220K ohm	AA
R225, R226	VRD-ST2EE274J	270K ohm	AA
R227, R228	VRD-ST2EE224J	220K ohm	AA
R229, R230	VRD-ST2EE563J	56K ohm	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
R231, R232	VRD-ST2EE102J	1K ohm	AA
R233, R234	VRD-ST2EE181J	180 ohm	AA
R235, R236	VRD-ST2EE101J	100 ohm	AA
R237, R238	VRD-ST2EE273J	27K ohm	AA
R239, R240	VRD-ST2EE221J	220 ohm	AA
R241, R242	VRD-ST2EE274J	270K ohm	AA
R243, R244	VRD-ST2EE102J	1K ohm	AA
R245, R246	VRD-ST2EE472J	4.7K ohm	AA
R247, R248	VRD-ST2EE221J	220 ohm	AA
R249, R250	VRD-ST2EE332J	3.3K ohm	AA
R251, R252	VRD-ST2EE152J	1.5K ohm	AA
R253, R254	VRD-ST2EE473J	47K ohm	AA
R255	VRS-PT3AB102J	1K ohm, 1W, +5 −5%, Oxide Film	AB
R256	VRS-PT3AB272J	2.7K ohm, 1W, +5 −5%, Oxide Film	AB
R257	VRS-PT3DB331J	330 ohm, 2W, +5 −5%, Oxide Film	AB
R258	VRS-PT3DB271J	270 ohm, 2W, +5 −5%, Oxide Film	AB
R259	VRS-PT3DB101J	100 ohm, 2W, +5 −5%, Oxide Film	AB
R261, R262	VRD-ST2EE272J	2.7K ohm	AA
R301	VRD-ST2EE682J	6.8K ohm	AA
R302	VRD-ST2EE222J	2.2K ohm	AA
R303	VRD-ST2EE392J	3.9K ohm	AA
R304	VRD-ST2EE153J	15K ohm	AA
R305	VRD-ST2EE823J	82K ohm	AA
R306	VRD-ST2EE392J	3.9K ohm	AA
R307	VRD-ST2EE101J	100 ohm	AA
R308	VRD-ST2EE272J	2.7K ohm	AA
R309	VRD-ST2EE104J	100K ohm	AA
R310	VRD-ST2EE563J	56K ohm	AA
R311	VRD-ST2EE103J	10K ohm	AA
R312	VRD-ST2EE103J	10K ohm	AA
R313	VRD-ST2EE100J	10 ohm	AA
R317	VRD-ST2EE102J	1K ohm	AA
R318	VRD-ST2EE103J	10K ohm	AA
R319	VRD-ST2EE100J	10 ohm	AA
R320	VRD-ST2EE821J	820 ohm	AA
R321	VRD-ST2EE101J	100 ohm	AA
R322	VRD-ST2EE563J	56K ohm	AA
R323	VRD-ST2EE103J	10K ohm	AA
R324	VRD-ST2EE822J	8.2K ohm	AA
R325	VRD-ST2EE101J	100 ohm	AA
R326	VRD-ST2EE822J	8.2K ohm	AA
R327	VRD-ST2EE393J	39K ohm	AA
R328	VRD-ST2EE393J	39K ohm	AA
R329	VRD-ST2EE393J	39K ohm	AA
R330	VRD-ST2EE393J	39K ohm	AA
R331	VRD-ST2EE104J	100K ohm	AA
R332	VRD-ST2EE223J	22K ohm	AA
R333	VRD-ST2EE222J	2.2K ohm	AA
R334	VRD-ST2EE470J	47 ohm	AA
R336	VRD-ST2EE123J	12K ohm	AA
R337	VRD-ST2EE332J	3.3K ohm	AA
R338	VRD-ST2EE330J	33 ohm	AA
R339	VRD-ST2EE272J	2.7K ohm	AA
R340	VRD-ST2EE123J	12K ohm	AA
R341	VRD-ST2EE222J	2.2K ohm	AA
R342	VRD-ST2EE470J	47 ohm	AA
R343	VRD-ST2EE682J	6.8K ohm	AA
R344	VRD-ST2EE123J	12K ohm	AA
R345	VRD-ST2EE333J	33K ohm	AA
R346	VRD-ST2EE104J	100K ohm	AA
R347	VRD-ST2EE332J	3.3K ohm	AA
R348	VRD-ST2EE223J	22K ohm	AA
R349	VRD-ST2EE822J	8.2K ohm	AA
R350	VRD-ST2EE393J	39K ohm	AA
R351	VRD-ST2EE393J	39K ohm	AA
R352	VRD-ST2EE393J	39K ohm	AA
R353	VRD-ST2EE393J	39K ohm	AA
R354	VRD-ST2EE104J	100K ohm	AA
R355	VRD-ST2EE223J	22K ohm	AA
R356	VRD-ST2EE222J	2.2K ohm	AA
R357	VRD-ST2EE470J	47 ohm	AA
R359	VRD-ST2EE123J	12K ohm	AA
R360	VRD-ST2EE332J	3.3K ohm	AA
R361	VRD-ST2EE330J	33 ohm	AA
R362	VRD-ST2EE272J	2.7K ohm	AA
R363	VRD-ST2EE123J	12K ohm	AA
R364	VRD-ST2EE222J	2.2K ohm	AA
R365	VRD-ST2EE470J	47 ohm	AA
R366	VRD-ST2EE682J	6.8K ohm	AA
R367	VRD-ST2EE123J	12K ohm	AA
R368	VRD-ST2EE333J	33K ohm	AA
R369	VRD-ST2EE104J	100K ohm	AA
R370	VRD-ST2EE332J	3.3K ohm	AA
R371	VRD-ST2EE223J	22K ohm	AA
R372	VRD-ST2EE332J	3.3K ohm	AA
R373	VRD-ST2EE562J	5.6K ohm	AA
R374	VRD-ST2EE472J	4.7K ohm	AA
R375	VRD-ST2EE472J	4.7K ohm	AA
R376	VRD-ST2EE102J	1K ohm	AA
R377	VRD-ST2EE330J	33 ohm	AA
R378	VRD-ST2EE330J	33 ohm	AA
R379	VRD-ST2HD1R0J	1 ohm, 1/2W, +5 −5%, Carbon	AA
R406	VRS-PT3AB102K	1K ohm, 1W, +10 −10%, Oxide Film	AB
R408	VRD-ST2EE392J	3.9K ohm	AA
R409	VRD-ST2EE562J	5.6K ohm	AA
R410	VRD-ST2EE222J	2.2K ohm	AA
R411	VRS-PT3DB271J	270 ohm, 2W, +5 −5%, Oxide Film	AB
R414	VRD-ST2EE101J	100 ohm	AA
R415	VRD-ST2EE154J	150K ohm	AA
R417	VRD-ST2EE103J	10K ohm	AA
R418	VRD-ST2EE101J	100 ohm	AA
R601, R602	VRD-ST2EE105J	1M ohm	AA
R603, R604	VRD-ST2EE473J	47K ohm	AA
R605, R606	VRD-ST2EE563J	56K ohm	AA
R607, R608	VRD-ST2EE152J	1.5K ohm	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
R609, R610	VRD-ST2EE272J	2.7K ohm	AA
	MISCELLANEOUS		
001	GCAB-3017AFSA	Cabinet	AZ
001-2	GCOVD3003AFSA	Lid, Cabinet Top	
002	GCOVA1053AFSA	Guide, Lever Switch, Small	AB
003	GCOVA1054AFSA	Guide, Lever Switch, Large	AC
004	GCOVA1061AF00	Cover, Hole	AA
005	GCOVA1063AFSA	Cover, Mechanism	AH
006	GDORF3052AFSA	Door, Cassette Compartment	AF
007	GITAS0012AFSA	Decoration Plate, Cabinet	AR
008	PSPAS0051AFZZ	Spacer, Push Switch	AB
009	GITAU0004AFZZ	Cabinet Bottom	AP
010	GLEGP0050AF00	Leg	AC
011	GWAKP1055AFSA	Frame, Level Meter	AG
012	HDECA0268AFSA	Decoration Cassette Compartment Door	AK
013	HPNLC3241AFSA	Panel, Front	BC
014	JBOTN0055AFSA	Button Assembly, Mechanism	AW
015	JKNBM1004SESF	Knob, POWER/SPACE/ INPUT/APFS	AE
016	JKNBN0312AFSA	Knob, RECORD	AG
017	JKNBN0313AFSA	Knob, OUTPUT	AG
018	JKNBP0058AFSA	Knob, BIAS/EQ/DOLBY NR	AH
019	KCOUB0058AFZZ	Counter	AN
020	LANGF0337AFZZ	Block, Record Safety Lever	AF
021	LANGF0346AFZZ	Bracket, Strengthen, Front	AC
022	LANGK0167AFZZ	Bracket, Right Side	AE
023	LANGK0168AFZZ	Bracket, Left Side	AE
024	LANGT0515AFZZ	Bracket, Counter	AD
025	LANGT0516AFZZ	Bracket, Counter Pulley	AG
026	LANGT0518AFZZ	Bracket, Front	AM
027	MECA-A0417L	Bracket, Mechanism, Left Side	AC
028	MECA-A0417R	Bracket, Mechanism, Right Side	AC
029	LANGT0521AFZZ	Bracket, Cassette Illumination Lamp	AE
030	LANGT0523AFZZ	Bracket, Level Meter	AD
031	LANGT0524AFZZ	Bracket, Bias Oscillation P.W.B., Left Side	AC
032	LANGT0525AFZZ	Bracket, Bias Oscillation P.W.B., Right Side	AC
033	LANGT0549AFSA	Bracket, Terminal, Rear	AS
034	LCHSM0229AFZZ	Mounting Plate	AN
035	LBOSA0052AFFD	Spacer, Bias Oscillation P.W.B.	AC
036	LBSHC0004AGZZ	Bushing, Mains Supply Cord	AC
	LBSHC0007AFZZ	(See Table 2)	AB
037	LBSHS0001AG00	Cushion, Capstan Motor	AA
038	LDAIH0050AFZZ	Head Mount, APF	AB
039	LHLDW1050AFZZ	Wire Holder	AB
040	LHLDW1051AFZZ	Wire Holder	AB
041	LHLDW1052AFZZ	Wire Holder (See Figure 21)	AA
042	LHLDW1062AFZZ	Wire Holder	AA
043	MLEVP0066AF00	Lever, Record Safety	AC
044	LHLDW3003AFFD	Wire Holder	AA
045	LHLDW3007AGZZ	Wire Holder	AA
046	LHLDW3050AFZZ	Wire Holder	AD
047	MLOKC0052AFZZ	Lever, Cassette Holder Lock	AC
048	LHLDW3053AFZZ	Wire Holder	AA
049	LHLDW9003CEZZ	Wire Holder	AA
050	LX-BZ0214AFZZ	Screw, Flywheel Thrust Adjust	AB
051	LX-WZ0031AGFE	Washer, Special	AA
053	MLEVP0064AFZZ	Lever, Playback Idler	AD
055	MLOKC0053AFFD	Lever, Cassette Compartment Door Lock	AC
056	MSPRP0122AFZZ	Spring, Cassette Retaining	AE
057	MSPRT0337AFFW	Spring, Door Lock Lever	AA
058	MSPRT0338AFFW	Spring, Cassette Compartment Door	AB
059	NBLTH0052AF00	Belt, Drive	AD
060	NBLTM0050AF00	Belt, Counter	AE
061	NBRGC0051AFZZ	Bearing, Capstan Shaft	AF
062	NDAIR0105AFSA	Turntable, Take-up	AG
063	NDAIR0106AFSA	Turntable, Supply	AD
064	NFLYC0054AFZZ	Flywheel	AR
065	NIDR-0021AGZZ	Idler, Take-up	AD
066	NPLYR0054AF00	Roller, Capstan Shaft	AC
067	NROLW0002AFZZ	Roller, Fast Forward/Rewind	AH
068	NROLY0005AFZZ	Pressure Roller Assembly	AG
069	NSFTZ0053AFFF	Boss, Cassette Compartment Door	AB
070	PCOVW7101AFZZ	Insulator, Micro Switch	AA
071	PCOVW9057AG00	Insulator, Micro Switch	AA
072	PCUSG0061AF00	Cushion, Rubber	AB
073	PCUSG0062AF00	Cushion, Rubber	AA
074	PCUSS0053AF00	Cushion, Volume Control P.W.B.	AB
075	PCUSU0214AFZZ	Cushion, Cassette Compartment Door	AA
076	PFLT-0265AFZZ	Felt, Back Tension Lever	AA
077	PFLT-0270AF01	Felt, Leg	AB
078	PFLT-0272AF00	Felt, Terminal Bracket	AA
079	PGIDM0052AF00	Guide, Cassette, Left Side	AD
080	PGIDM0053AF00	Guide, Cassette, Right Side	AD
081	PCUSU0215AFZZ	Cushion, Meter	AA
082	PMIR-0050AFZZ	Mirror	AA
083	PRDAR0101AFFW	Heatsink, Transistor (Q145)	AB
084	PSHEZ0060AFZZ	Insulator, Front Bracket	AB
085	PSPAG0024AG00	Holder, Reed Switch P.W.B.	AB
086	PSPAN0004AF09	Spacer, Jacks	AB
087	PSPAV0052AFZZ	Tube, L.E.D.	AA
088	QACCB0052AF09	Cord, Mains Supply (for UK)	AM
	QACCL0001AFZZ	Cord, Mains Supply (SAA)	AQ
	QACCV0001AGZZ	Cord, Mains Supply (KEMA) — See Table 2	AN
	QACCZ0002AG08	Cord, Mains Supply, without plug	AF
	QACCZ0002TA0F	Cord, Mains Supply, with Plug	AF
089	QHWS-3001AGFN	Lug Terminal, Ground	AA
090	QLUGL0201SEZZ	Lug Terminal, 3-Terminal	AA
091	QLUGL0250AFZZ	Lug Terminal, 2-Terminal	AC
092	QLUGP0105AGZZ	Lug Terminal (See Figure 21)	AA
093	QLUGP0111CEFW	Lug Terminal (See Figure 21)	AA
094	QLUGQ0106CEZZ	Lug Terminal (See Figure 21)	AA
095	QLUGZ0101SEFW	Lug Terminal (See Figure 21)	AA
096	QLUGZ0103CEFW	Lug Terminal (See Figure 21)	AA
097	QPWBF0510AFZZ	Printed Wiring Board, Reed Switch	AC
098	QPWBF0463AFZZ	Printed Wiring Board, Record/Playback Amp.	AN
099	QPWBF0464AFZZ	Printed Wiring Board, Bias Oscillation	AL
100	QPWBF0465AFZZ	Printed Wiring Board, Volume Control	AM

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
101	QPWBF0466AFZZ	Printed Wiring Board, Push Switches	AE
102	QPWBF0505AFZZ	Printed Wiring Board, Power Supply	AG
103	QPWBF0468AFZZ	Printed Wiring Board, Intermediate	AF
104	QPWBF0470AFZZ	Printed Wiring Board, RECORD/DOLBY NR Indicator	AC
105	QPWBF0471AFZZ	Printed Wiring Board, SPACE Indicator	AC
106	QTIPZ0002SGZZ	Tip, Connector (See Figure 21)	AA
107	RHEDA0054AFZZ	Head, Erase	AN
108	RHEDE0002AGZZ	Head, A.P.F.	AP
109	RHEDH0058AFZZ	Head, Record/Playback	BA
110	RMOTM0055AFZZ	Motor, Fast Forward/Rewind	AX
111	RMOTV0054AFZZ	Motor, Capstan	BA
112	LBOSC0051AFFD	Pole, Record/Playback Switch Lever	AB
113	LBOSC0052AFFD	Pole, Record/Playback Switch Lever	AB
114	LANGF0349AFZZ	Bracket, Strengthen, Mechanism Block	AA
115	LANGF0347AFZZ	Bracket, Strengthen, Terminal Bracket, Left Side	AB
116	LANGF0348AFZZ	Bracket, Strengthen, Terminal Bracket, Right Side	AB
117	PCUSS0066AFZZ	Cushion, Mechanism Block	AA
118	MLEVF0561AFFD	Lever, Record/Playback Switch	AD
119	MLEVF0562AFFD	Lever, Record/Playback Switch	AD
120	MLEVF0563AFFD	Lever, Record/Playback Switch	AB
121	LANGF0158AGZZ	Bracket, Strengthen, Front, Right Side	AB
122	LANGF0159AGZZ	Bracket, Strengthen, Front, Left Side	AB
123	MSPRT0339AFFJ	Spring, Record/Playback Switch Lever	AA
125	PSPAG0022AG00	Cushion, Cassette Compartment Door	AA
126	NBALS0004AGFJ	Steel Ball, 3ϕ	AA
130	MC-0417ASY	Mechanism Mounting Plate	AX
131	SC-ASY0417	Sub-chassis	AK
132	OS-LEV0417	Lever, Over Stroke	AC
133	APL-ACT-LEV	Lever, A.P.F. Operating	AD
134	MAN-ACT-LEV	Lever, Mains	AD
135	FF-ACT-LEV	Lever, Fast Forward	AC
136	REC-CON-LEV	Lever, Record Connecting	AD
137	EJ-CON-LEV	Lever, Eject	AD
138	PAS-LEV417A	Lever, Pause Operating	AC
139	PAS-LEV417B	Lever, Pause Operating	AD
140	SR-LEV417L	Lever, Fast Forward/Rewind Roller	AC
141	SR-LEV417R	Lever, Fast Forward/Rewind Roller	AC
142	PR-AL0417	Lever, Pressure Roller Assembly	AC
143	APL-A-P417	Lever, A.P.F. Head	AD
144	LOK-LEV417	Lock, Push Buttons	AE
145	S-PAS-LEV-A	Lever, Space Pause	AC
146	S-PAS-LEV-B	Lever, Space Pause	AD
147	MUT-SA-LEV	Lever, Muting Switch	AD
148	BAKT-LEV417	Lever, Back Tension	AC
149	R-SPN-L417	Lever, Record Connecting	AD
150	RW-ACT-LEV	Lever, Rewind	AC
151	MOT-ANG417	Bracket, Capstan Motor	AC
152	MOT-PLT417	Bracket, Fast Forward/ Rewind Motor	AB
153	FLY-A-ASY	Bracket, Flywheel	AE
154	LOK-ANG417	Bracket, Push Buttons Lock	AC
155	CT-HOL-STP	Stopper, Cassette Holder	AD
156	APL-HD-PLT	A.P.F. Head Mounting Plate	AB
157	SW-ANG417A	Bracket, Pause Switch	AC
158	MOT–SLV417	Sleeve, Motor Cushion Rubber	AC
159	SPAS-417A	Spacer, Mains Lever	AA
160	PL-ROD417	Rod, Auto Stop Solenoid	AA
161	SPR-0417AT	Spring, Pressure Roller Assembly Lever	AA
162	SPR-0417BT	Spring, Playback Idler Lever	AA
163	SPR-417CD	Spring, A.P.F. Head Lever	AA
164	MSPRC0031AGMN	Spring, Record/Playback Head Azimuth	AA
165	SPR-0417FD	Spring, A.P.F. Head Azimuth	AA
166	SPR-0417GT	Spring, Record Connecting Lever	AA
167	SPR-0417HT	Spring, Fast Forward/Rewind Roller Lever	AB
168	SPR-0417IT	Spring, Push Bottons Lock	AB
169	SPR-0417KT	Spring, Eject Lever	AB
170	SPR-0417NT	Spring, Over Stroke Lever	AB
171	SPR-0417PT	Spring, Over Stroke Lever	AA
172	SPR-0417QT	Spring, Pause Operating Lever	AA
173	SPR-0417RT	Spring, Pause Operating Lever	AA
174	SC-OSA-BANE	Retainer, Sub-chassis	AB
175	SPR-0417U	Spring, Pause Switch	AB
176	SPR-0417JT	Spring, A.P.F. Operating Lever	AA
177	SPR-0417VT	Spring, Back Tension Lever	AB
178	SPR-0417XT	Spring, Pause Switch	AA
179	SPR-0417LT	Spring, Eject Lever	AA
180	CT-HOL-HON	Holder, Cassette	AL
181	SPR-SLND	Spring, Solenoid	AA
182	QPWBF0494AFZZ	P.W.Board, Input/Output Terminal	AF
183	QSOCZ2450AFZZ	Socket Board Assembly	AK
184	QFSHD1001AGZZ	Holder, Fuse (See Figure 21)	AB
185	PSLDC3056AFZZ	Shield, MIC and PHONES Jack	AC
186	QFSHC0003AGZZ	Holder, Fuse, AC Line	AD
187	PCOVP1152AFZZ	Cover, Ceramic Capacitor (C418)	AB
188	PSPAB0103AFFW	Spacer, Voltage Selector Socket	AA
189	LX-NZ0109AFFN	Nut, Microphone Jack	AB
190	GCOVA1069AFSA	Cover, Tape Counter	AC
191	PFLT-0281AFZZ	Felt, Record Knob	AB
192	QPLGA0201AGZZ	Plug, Mains Supply Cord (See Figure 34)	AE
192	QPLGA0203AGZZ	Plug, Mains Supply Cord (See Figure 34)	AE
193	QLUGP9050AFFW	Lug Terminal (See Figure 21)	AA
194	PCOVW9104AFZZ	Partition, Fiber	AA
F1	QFS-C800CAGNI	Fuse, 80mAT (240V)	AG
F1	QFS-C801CAGNI	Fuse, 800mAT (110/220V)	AE
F2, F3, F4	QFS-C801CAGNI	Fuse, 800mAT	AE
PG2	QCNCM0402SGZZ	Plug, 4 Pin	AD
PG4	QCNCM0503SGZZ	Plug, 5 Pin	AD
PG1	QCNCM0604SGZZ	Plug, 6 Pin	AD

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
PG3	QCNCM094CAFZZ	Plug, 3 Pin	AD
PG5	QCNCM1201AGZZ	Plug, 12 Pin	AE
SO2	QCNCW0401SGZZ	Socket, 4 Pin	AB
SO4	QCNCW0502SGZZ	Socket, 5 Pin	AB
SO1	QCNCW0603SGZZ	Socket, 6 Pin	AB
SO3	QCNCW086CAFZZ	Socket, 3 Pin	AB
SO5	QCNCW1201AGZZ	Socket, 12 Pin	AC
	QCNW-0127AFZZ	Connecting Cord	AM
SO6	QFSHA1001SGZZ	Socket, Pilot Lamp (PL1)	AB
SO7	Not Available	Socket, Record/Playback (Part of 183)	—
SO8	QSOCE0410AGZZ	Socket, Voltage Selector	AH
J101, J102	QJAKJ0054AFZZ	Jack, Microphones	AG
J104	QJAKE0027AGZZ	Jack, Headphones	AF
J105	Not Available	Jack, LINE IN, Left (Part of 183)	—
J106	Not Available	Jack, LINE IN, Right (Part of 183)	—
J107	Not Available	Jack, LINE OUT, Left (Part of 183)	—
J108	Not Available	Jack, LINE OUT, Right (Part of 183)	—
SW1, SW2	QSW-S0175AFZZ	Switch, Record/Playback	AK
SW3	QSW-S0079AGZZ	Switch, Muting Switch	AF
SW4	QSW-S0174AFZZ	Switch, Pause Switch	AG
SW5 (A ~ C)	QSW-P0125AFZZ	Switch, SPACE (SW5A) Switch, INPUT (SW5B) Switch, APFS (SW5C)	AL
SW8	QSW-B0070AFZZ	Switch, BIAS	AH
SW9	QSW-B0059AFZZ	Switch, EQ	AK
SW10	QSW-B0060AFZZ	Switch, DOLBY NR	AH
SW11	QSW-L0051AFZZ	Switch, Reed, Auto Stop	AH
SW12	QSW-M0013AGZZ	Switch, Fast Forward Motor	AH
SW13	QSW-M0013AGZZ	Switch, Rewind Motor	AH
SW14	QSW-M0013AGZZ	Switch, Capstan Motor	AH
SW15	QSW-M0013AGZZ	Switch, Pause Solenoid	AH
SW16	QSW-F0041AGZZ	Switch, A.P.F.S.	AD
SW17	QSW-M0013AGZZ	Switch, Auto Stop	AH
SW18	QSW-M0013AGZZ	Switch, Pause	AH
SW19	QSW-P0119AFZZ	Switch, POWER	AL
TE101	QTANN0150AFZZ	Terminal, GND	AD
PL1	RLMPP0053AFZZ	Pilot Lamp, Cassette Compartment	AD
PL2, PL3	Not Available	Part of Meter	
ME101, ME102	RMTRL0115AFZZ	Meter	AW
SOL301	RPLU-0054AFZZ	Solenoid, Auto Stop	AN
SOL302	RPLU-0055AFZZ	Solenoid, Space Pause	AL

088 (Mains Supply Cord)	036 (Cord Bushing)
QACCB0052AF09	LBSHC0004AGZZ
QACCL0001AFZZ	LBSHC0004AGZZ
QACCV0001AGZZ	LBSHC0004AGZZ
QACCZ0002AG08	LBSHC0007AFZZ
QACCZ0002TA0F	LBSHC0007AFZZ

Table 2

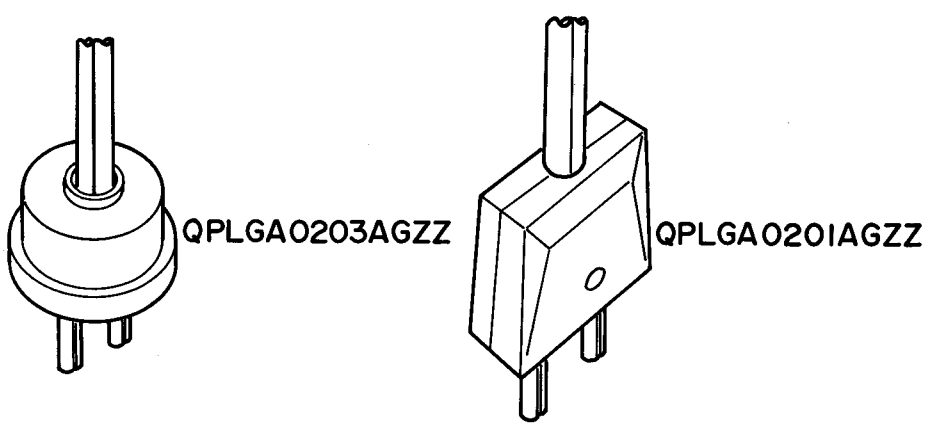


Figure 34

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